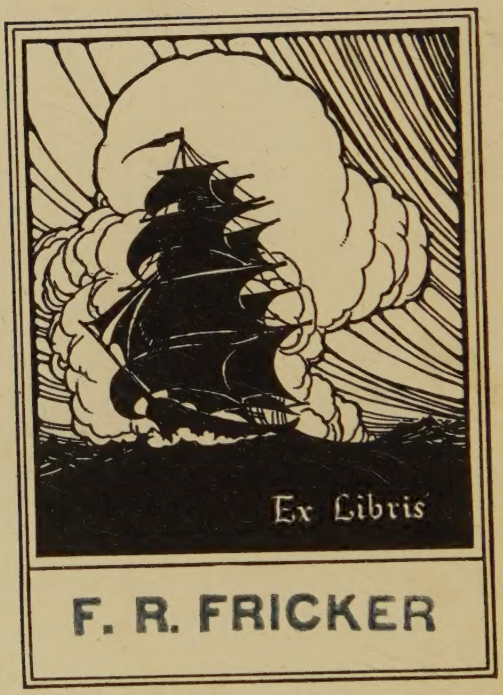
THE STORY OF OUR MERCHANT MARINE

WILLIS J. ABBOT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THE STORY OF OUR MERCHANT MARINE

NEW ENGLAND EARLY TOOK THE LEAD IN BUILDING SHIPS.

The Story of Our Merchant Marine

Its period of glory, its prolonged decadence and its vigorous revival as the result of the world war

BY

WILLIS J. ABBOT

Author of "The Story of Our Army," "The Story of Our Navy," "Soldiers of the Sea," etc.

ILLUSTRATED BY RAY BROWN

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Introduction

No more perplexing nor more baffling problem confronts the people of the United States to-day than the future of the nation's merchant marine.

For the first half century of our existence as a nation the sea was our greatest industrial field. Seafaring and international trade engaged our brightest minds and most adventurous spirits. By the middle of the 19th Century we had attained so preëminent a position on the ocean that we were the most important commerce carrier in the world. Then began a process of gradual decline until our overseas fleet had sunk to contemptible proportions. In 1913 less than ten per cent. of our exports and imports was carried in American bottoms.

The reasons for this decline are many, and, despite the clamor of politicians, not all are connected with legislation or with political doctrines. It is quite true that the United States has always been niggardly in the matter of subsidies, if not indeed absolutely antagonistic to that system. Accordingly we have seen the British merchant fleet greatly increased by government aid, while the German merchant marine, annihilated by the war, may fairly be said to have been raised to second place entirely by liberal subsidies. During this period the Congress of the United States stubbornly refused financial aid of this character to shipping corporations and our fleet, engaged in international or overseas trade fell below even those of France, Germany and Norway.

But the subsidy idea came in with steam navigation and the decline of our merchant fleet was apparent even

before that era. In the body of this book the causes of this decline are fully discussed, but may be briefly stated thus:

Iron as a shipbuilding material was more economically produced in England.
England was earlier in designing and building marine engines.
The Confederate cruisers destroyed many American ships, and drove others to the protection of foreign flags.
England's wide distribution of colonies provided her with superior coaling stations all over the world.
Lloyd's, as a British corporation, discriminated against American ships in registry and insurance.
After the Civil War the work of developing our great interior domain turned American enterprise away from the sea.
American high wages ashore and afloat made competition with England in building and manning ships difficult.
The subsidy system has never appealed to American lawmakers.

Such, briefly stated, are the causes which brought the American merchant marine to its ignoble state prior to the war. All, with the possible exception of the concentration of American effort upon internal development, are operative to-day. The problem now confronting the American people is how to use the impetus furnished by war-time necessities to advance our merchant fleet to preëminence and keep it there under peace conditions.

We have approaching completion an enormous fleet of cargo ships. When launched and outfitted they will put us first on the ocean. Can we retain that position? Can we even retain a creditable second place, conceding first to Great Britain in view of her insular citadel and far-flung colonial empire?

The questions are not easy to answer. Our ships have been built with war-time extravagance. The Government will have to charge off hundreds of millions of their cost to put them on terms of economic equality with those of Great Britain. And are they to be owned

by the Government or sold to private owners? If the latter what assurance have we that the desire for immediate profit will not result in their speedy resale to foreign owners? Perhaps the Government may merely lease them to private operators. Perhaps by this means enterprise may be encouraged without recourse to the subsidy, against which American prejudice appears to be inveterate.

Do we want an American merchant marine manned by foreign sailors? Or do we want one manned by American sailors whose wages, by competition in the international labor market, have been reduced to the level at which the Japanese, Lascars or Chinese coolies are eager to work? Will the LaFollette seaman's law so fully protect the American sailor as to force the American ship off the seas? Or can it, in the midst of the great international reorganization now in progress at Paris, be made the basis for an international standard of seaman's wages that will ameliorate the condition of a sorely underpaid and badly used body of men?

All these questions confront the United States to-day as a new chapter in the history of her achievements on the high seas is opened. It is not claimed that this book furnishes the solutions of problems which must for long time to come tax the intellectual resources of our ablest statesmen. But there are gathered in this volume many of the facts which must be known if the nature of those problems is to be understood and progress to be made toward their solution.

No apology is needed for the amount of space devoted to the earlier triumphs of the United States upon the sea, and the romantic history of our sailors' achievements in every phase of seafaring life. He who best knows what our seamen have done in the past will most

efficiently join in the endeavor to open for them new and corresponding opportunities in the present.

Despite the clash of argument concerning the reasons for the long decline of American shipping in the past the author is convinced that the chief and predominant cause was the diversion of the American mind to greater opportunities for constructive effort, notably the building of railroads, the development of the West, and the reorganization of productive industries on a large scale. To a great extent these tasks have been accomplished. The attention of our people is again turned toward the sea, and the assumption and maintenance of our proper position in international trade and maritime enterprise. We are forced to put away the parochialism and isolation of the past, and assume our place in the society of nations. That place can only be held by sea-power—both naval and mercantile—and as it becomes increasingly evident that the United States needs that power her citizens will infallibly supply it.

Perhaps the situation could not better be described than it was by Mr. Edward N. Hurley, Chairman of the United States Shipping Board, in these words in the National Geographic Magazine:

"We must make America ship-minded. We are so little ship-minded to-day that it is chiefly the difficulties of operation which occupy the thoughts of those who are giving any thought whatever to our merchant marine of to-morrow. . . . What people want they usually get. The American people to-day are alert to the importance of ships, and our national business genius will be equal to working out all the problems and overcoming all the difficulties."

W. J. A.

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The Story of Our Merchant Marine

CHAPTER I

Introductory—Plight of the United States in 1914—An Enormous Demand and No Ships to Meet It—The Earlier History of Our Merchant Marine—The American Ship and the American Sailor—New England's Lead on the Ocean—The Earliest American Ship-Building—Ship-Building in the Forests and on the Farm—Some Early Types—The First Schooner and the First Full-Rigged Ship—Jealousy and Antagonism of England—The Pest of Privateering—Encouragement from Congress—The Golden Days of Our Merchant Marine—Fighting Captains and Trading Captains—Ground Between France and England—Checked by the Wars—Sealing and Whaling—Into the Pacific—How Yankee Boys Mounted the Quarter-deck—Some Stories of Early Seamen—The Packets and Their Exploits.

WHEN Robinson Crusoe after long and painstaking work had completed the pinnace by the aid of which he expected to escape from his desolate island he suddenly awoke to the fact that he had built it far from the water and had no possible way of transporting it to its true element. DeFoe, author of that immortal story well depicts the bitter disappointment and self-accusing wrath with which the luckless castaway was overwhelmed on recognizing the fatal effect of his initial blunder. But he makes Crusoe meet the disaster like a man, square his shoulders and set about the building of another boat straitway. A great shock tests the quality

of a man and of a naton. It awakens each to a sense of some grave error, a recognition of some fatal defect by which their fortune or perhaps their lives may be endangered. If man or nation has courage, determination, the

THE SHALLOP

ability to withstand adversity and to surmount obstacles —in brief what we call backbone—such a reverse is in the end an advantage, for it brings out all that is bravest

and best in the sufferer and enables him to mount on a stairway of new and wiser endeavor to heights never before attained.

When the great war in Europe broke out in 1914 the United States was in somewhat the position of Robinson Crusoe with his boat. It had food and products of every sort which were eagerly desired by the belligerent nations, and which our people no less eagerly desired to sell. But we had practically no ships in which to carry our products to the foreign markets. Most happily for the Allied cause—which after almost three years of hesitation we joined—Great Britain had a prodigious merchant marine and an invincible navy with which to protect its cargo ships. Had the condition been reversed, had Germany possessed at sea the power she wielded on land, the result of the war would inevitably have been German victory. For as, during our years of neutrality our foodstuffs and our manufactures were equally at the disposal of any belligerent who was able to carry them away, Germany would then have monopolized our products and swiftly starved England into subjection.

Without a navy adequate to meet that of Great Britain in combat, Germany endeavored to accomplish this end with her submarines, and in due time the lawless procedure of her U-boats forced this country into war. Then indeed the nation awoke to the error which had allowed its merchant marine to languish through more than half a century of government neglect. We could, and did, create a monster army in but a few months' time. Our munitions factories which had long been working day and night for our allies could readily divert their activities to furnishing our own men with cannon and shells, airplanes and tanks, rifles, bayonets, grenades, asphyxiating gas and liquid fire. As a workshop our

efficiency was beyond dispute, but we lacked a delivery system.

This situation was the more intolerable because the time had been—as will be shown later in this volume—when the United States had led all nations on the ocean, when the Stars and Stripes were to be encountered in the most out-of-the-way corners of the world, and when Great Britain herself was forced to yield preëminence afloat to the sailors of the land that had thrown off her domination. But the past, however glorious, could not come to our aid in the war-torn present. The clippers of Baltimore and of Salem, the prowling schooners of Maine, the bluff-bowed brigs of New Bedford, the liners with towering masts and clouds of canvas that had once sailed from New York were vanished. We wanted to supply a world with meats, grain and other foodstuffs, to equip battling armies with great guns and high explosives, to send over in due time an army of our own which it seemed might number 5,000,000 men and to keep each of these supplied and equipped. The phantom ships of the past were of no service to this end. We needed huge fleets of cargo carriers at once. Men estimated that three tons to the man in the field was the amount of shipping needed. One million men was the least we thought of for the first year's contribution of the United States to the Allied armies in France. That made 3,000,000 tons of shipping. All the ocean-going ships under American registry at the moment amounted to 2,191,000 tons. Whence were we to obtain the other 900,000 tons?

Indeed, that is not a fair statement of the proportions of the problem. For we had not only to create a gigantic merchant fleet, but we had to maintain it at its fullest size. And when we entered the war the Germans

were sinking ships at the rate of 500,000 tons a month. Von Tirpitz, and other extremists of the German admiralty, held forth to their countrymen the pleasing promise that, freed from restraints which the neutrality of the United States imposed, they could easily sink a million tons a month and thus bring England to her knees. Had

THE KETCH

they been able to accomplish this enormous execution, that result might fairly have followed, but the British and American navies found at least a partial remedy for the submarine before it had brought famine very close to the people of the British Isles.

However, what the United States had to face was

the immediate necessity of a fleet of not less than 6,000,000 tons, and the construction of new vessels at such a rate as would not merely replace all losses inflicted by submarines, but would at least double the effective size of the fleet during the period of the war, which, when the United States entered upon it, few people thought would be ended in less than two years. Some idea of the proportions of this problem may be derived from the record of ship construction and ship losses by the Allies during the period of the war ending in February, 1917—the date of the entrance of the United States. During that time the shipyards of Great Britain, France, Russia, Italy and Japan turned out 2,800,000 tons of new ships while the submarines took away a little more than 3,000,000. And this was the outcome of the contest between the builders and the sinkers of ships, during the period when the latter were just beginning to test out the efficacy of their almost untried submarines, and were still restrained to some extent by the insistence of the United States and other neutrals that the new weapon should not be used in a way revolting to humanity, and in flagrant violation of recognized principles of international law.

At the moment the shipping of the world in the hands of nations either neutral or at war with the Teutonic alliance amounted to 25,500,000 tons in Atlantic waters and 5,500,000 tons in the Pacific. Every hull was busy. It was the golden moment for ship owners. Old square-rigged wind-jammers that had been laid up for years, and that might never again hope to breast a blue sea, were outfitted and made fortunes for their owners. New wooden ships, hastily constructed, paid for themselves in their first voyage. Lake boats and harbor craft were sent out into the ocean and reaped golden rewards.

In the list of ship-owning nations the United States ranked second. But the rank was illusory. Great Britain came first with some 14,000,000 tons of ocean-going vessels available. The United States followed—a very bad second—with 2,400,000 tons, classed as "available" by

THE BROAD ARROW MARKED TIMBER FIT FOR SHIPS

the Shipping Board. But much of our tonnage was of coastwise craft or vessels designed for special service like oil tanks. Moreover, it is a melancholy fact that our gross tonnage in 1917 was almost precisely what it

was in 1891. In that period the gross tonnage of other nations had more than doubled. For actual all-round ocean-going service the 2,300,000 tons of Norway, the 1,600,000 tons of Holland, the 1,800,000 tons of France or the 1,400,000 tons of Italy were more serviceable though ours stood higher in the statistical table.

The character of our fleet was unfortunate. What we needed was swift passenger vessels to carry troops to Europe—of these we had not half a dozen—and commodious cargo ships for carrying supplies. The largest number of our modern ships were oil tanks, admirable for the purpose of carrying oil in tanks to all quarters of the world, but unfit for the passenger, or package

"THE FARMER-BUILDER AT THE HELM"

freight service which was war's first need. Many were fruit ships designed for navigation in the tropics. We had only two trans-Atlantic liners suitable for passenger use, and when the war broke out these had just been

reduced by the companies operating them to the grade of second-class ships. About one-eighth of our total fleet had passenger accommodations, and these were mainly coasters. It is proper, however, to note that because of the distance between our ports and the nature of the seas to be navigated the American coaster is a superior craft to those of the same class in European waters. For example, a ship sailing between New York and New Orleans or Galveston undertakes a voyage equal in possible peril to that of the average trans-Atlantic liner, and far exceeding anything in length which comes in the regular service of a British or French coaster. Many of these performed most efficient service as transports, two at least, the "Antilles" and the "Covington," going down before the deadly stroke of the submarines.

While but about 2,400,000 tons of our shipping in 1917 was classed by the Shipping Board as available for war purposes, the gross tonnage of the United States merchant marine was greater than this. We had at that time, of craft of over 100 gross tons each, about 8,600,000 tons. Of these 4,000,000 were in the Atlantic, Gulf of Mexico and Pacific coast trade; about 3,000,000 tons on the Great Lakes and the rest in international trade. Our total tonnage was about one and one-half times as great as that of Germany, but hers was practically wholly made up of ships in international trade. Indeed, the German ships interned in American harbors and seized by us upon our declaration of war greatly exceeded in tonnage and value the entire United States fleet engaged in trans-Atlantic trade.

Such then stated in a broad and general way was the condition of the United States merchant marine when the sudden shock of war compelled the nation to take steps for building it up to proportions commensurate

with the needs and dignity of the nation. Before telling the story of that belated endeavor to revive a shipping that had once led all the world, let us take up the long narrative of the beginnings of the United States merchant marine, its rise to the very first place on the seas, and its gradual sinking to the ignoble position it occupied when a World War galvanized it into life once more.

It was but natural that the people of British origin who settled our Atlantic seaboard after the middle of the Seventeenth Century should have turned to seafaring as a pursuit. They were sprung from the greatest maritime nation of the day. They were separated from their earlier homes and from their immediate markets by the ocean. In New England, at least, they inhabited a rugged and sterile country, responding but reluctantly to the efforts of the farmer, and they naturally looked for their livelihood to other occupations than that of agriculture. In a way the sea forced upon them the evidences of the wealth hidden in its capricious bosom. The waters bordering their coasts abounded with fish. The rivers such as the Connecticut, the Thames and the Penobscot so teemed with salmon coming up from the sea to spawn that it was the practice of farm hands taking employment to stipulate that they should not be called upon to eat salmon more than a certain number of times a week. The rich fisheries of the Newfoundland Banks had been known in Europe even before the establishment of the American colonies, and one of the causes of the Revolution was the endeavor of Lord North's ministry to shut the colonists off from fishing in these populous waters. The whales frequented New England waters long before New Englanders by the thousands began prowling into seas on the other side of the continent in pursuit of the retreating animals. The gigantic carcasses of these

cetaceans washed up on New England shores taught the people the worth of whale-oil and whalebone, and for years whaling was practiced in open boats within sight of Nantucket and the shores of Cape Cod.

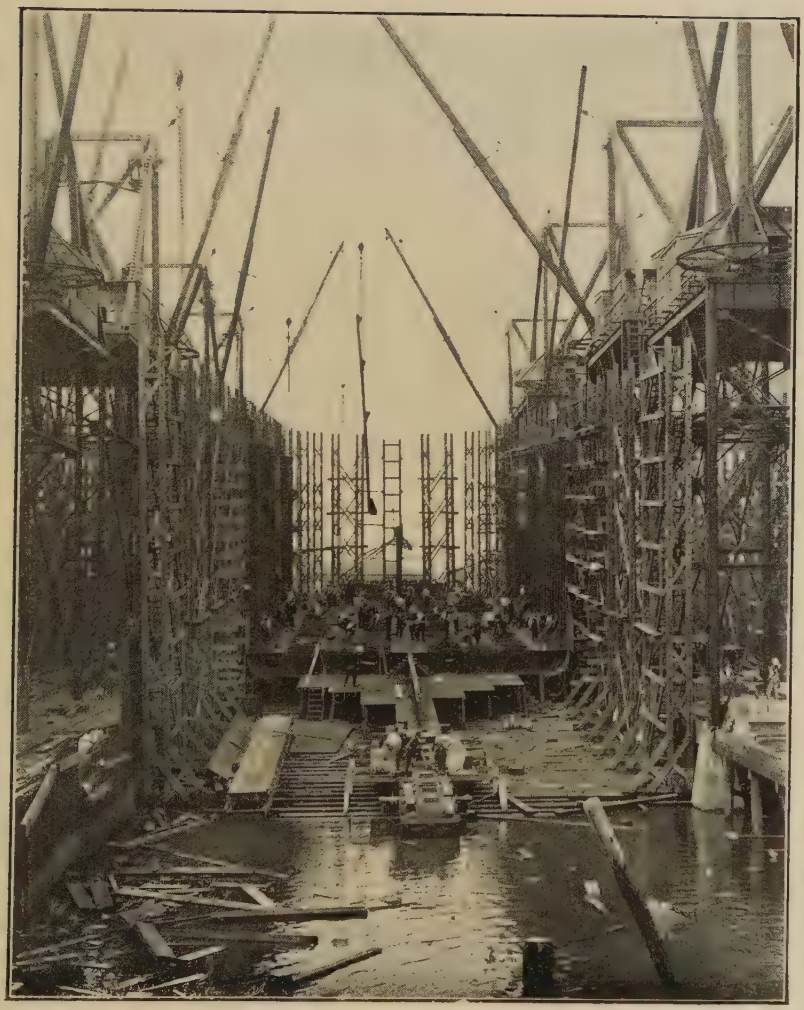
SCHOONER-RIGGED SHARPIE

Naturally the beginnings of maritime enterprise on this side of the Atlantic were small, and little celebrated in history. The first vessel of which we have record was the "Virginia," described at the time as a "faire pinnace of 30 tons," built at the mouth of the Kennebec in 1608 to carry home a group of discontented colonists. There followed a decked vessel of 16 tons, built on the Hudson in 1615, and in 1631 "The Blessing of the Bay," a sloop of 60 tons built on the Mystic River, by the

doughty John Winthrop, Governor of the Colony, and begun on July 4, 1631—a month and day destined to find fame in connection with the launching of a ship of state. Ten years later a ship of 300 tons burden was launched at Salem—a bigger craft than the "Mayflower" which had brought over the colony, and bigger by far than 90 per cent. of the ships in the British merchant marine. So with that year the business of ship building may be looked upon as definitely established among the leading New England industries.

By that time most European ports were beginning to show the clearances of American vessels. This was but natural. Nowhere in the world were there such forests of great towering pines and sturdy oaks close to the water's edge, so that the work of making a clearing for a shipyard furnished much of the timber for the first ships. The tall, straight pines of Maine and New Hampshire furnished masts for the ships of Drake and Rodney, and not infrequently a colony, in the days of loyalty to the Crown, would send a present of these stately spars of from 33 to 35 inches in diameter. The navigable rivers, extending into the trackless forests, enabled the shipbuilders to do their work where the timber was standing. Farmers during the winter built small craft from the forests on their own lands, and many of the farmers' boys took the ship built in their dooryard, loaded her with their own and their neighbor's produce and took her to the markets of Portsmouth, Boston or New York.

The types of craft making up our early fleets have largely disappeared. Even the names need explanation to-day. The ketch was a two-master, sometimes with lanteen sails, but more commonly with a square rigged foremast, and a mainmast carrying a fore-and-aft sail



ONE OF THE FIFTY WAYS AT HOG ISLAND SHIPYARDS

topped with a square topsail. The snow was practically a brig, but with a fore-and-aft sail on the mainmast. A pink was a schooner without bowsprit or jib. The shallop, the bug-eye, the sharpie, the smack had each definite characteristics, and the sharpie in Long Island Sound and the bug-eye in Chesapeake Bay still persist. But of all craft the New England schooner had most effect on marine architecture. Built first at Gloucester in 1713 it derived its name from the shout of a bystander as the hull slid lightly from the ways into the water. "See how she scoons," he exclaimed, and the proud owner shouted, "A schooner let her be."

By 1642 they were building good-sized vessels at Boston, and the year following was launched the first full-rigged ship, the "Trial," which went to Malaga, and brought back "wine, fruit, oil, linen and wool, which was a great advantage to the country, and gave encouragement to trade." A year earlier there set out the modest forerunner of our present wholesale spring pilgrimages to Europe. A ship set sail for London from Boston "with many passengers, men of chief rank in the country, and great store of beaver. Their adventure was very great, considering the doubtful estate of affairs of England, but many prayers of the churches went with them and followed after them."

By 1698 Governor Bellomont was able to say of Boston alone, "I believe there are more good vessels belonging to the town of Boston than to all Scotland and Ireland." Thereafter the business rapidly developed, until in a map of about 1730 there are noted sixteen shipyards. Rope walks, too, sprung up to furnish rigging, and presently for these Boston was a centre. Another industry, less commendable, grew up in this as in other shipping

centres. Molasses was one of the chief staples brought from the West Indies, and it came in quantities far in excess of any possible demand from the colonial sweet tooth. But it could be made into rum, and in those days rum was held an innocent beverage, dispensed like water at all formal gatherings, and used as a matter of course in the harvest fields, the shop, and on the deck at sea. Moreover, it had been found to have a special value as currency on the west coast of Africa. The negro savages manifested a more than civilized taste for it, and were ready to sell their enemies or their friends, their sons, fathers, wives, or daughters into slavery in exchange for the fiery fluid. So all New England set to turning the good molasses into fiery rum, and while the slave trade throve abroad the rum trade prospered at home.

Of course the rapid advance of the colonies in ship-building and in maritime trade was not regarded in England with unqualified pride. The theory of that day—and one not yet wholly abandoned—was that a colony was a mine, to be worked for the sole benefit of the mother country. It was to buy its goods in no other market. It was to use the ships of the home government alone for its trade across seas. It must not presume to manufacture for itself articles which merchants at home desired to sell. England early strove to impress such trade regulations upon the American colonies, and succeeded in embarrassing and handicapping them seriously, although evasions of the navigation laws were notorious, and were winked at by the officers of the crown. The restrictions were sufficiently burdensome, however, to make the ship-owners and sailors of 1770 among those most ready and eager for the revolt against the king.

The close of the Revolution found American shipping in a reasonably prosperous condition. It is true that the

peaceful vocation of the seamen had been interrupted, all access to British ports denied them, and their voyages to Continental markets had for six years been attended by the ever-present risk of capture and condemnation. But on the other hand, the war had opened the way for privateering, and out of the ports of Massachusetts, Rhode Island and Connecticut the privateers swarmed like swallows from a chimney at dawn. To the adventurous and not over-scrupulous men who followed it, privateering was a congenial pursuit—so much so, unhappily, that when the war ended, and a treaty robbed their calling of its guise of lawfulness, too many of them still continued it, braving the penalties of piracy for the sake of its gains. But during the period of the Revolution privateering did the struggling young nation two services—it sorely harassed the enemy, and it kept alive the seafaring zeal and skill of the New Englanders.

For a time it seemed that not all this zeal and skill could replace the maritime interests where they were when the Revolution began. For most people in the colonies independence meant a broader scope of activity —to the shipowner and sailor it meant new and serious limitations. England was still engaged in the effort to monopolize ocean traffic by the operation of tariffs and navigation laws. New England having become a foreign nation, her ships were denied admittance to the ports of the British West Indies, with which for years a flourishing trade had been conducted. Lumber, corn, fish, live stock, and farm produce had been sent to the islands, and coffee, sugar, cotton, rum, and indigo brought back. This commerce, which had come to equal £3,500,000 a year, was shut off by the British after American independence, despite the protest of Pitt, who saw clearly that the West Indians would suffer even more than the Americans.

Time showed his wisdom. Terrible sufferings came upon the West Indies for lack of the supplies they had been accustomed to import, and between 1780 and 1787 as many as 15,000 slaves perished from starvation.

Another cause held the American merchant marine in check for several years succeeding the declaration of peace. If there be one interest which must have behind it a well-organized, coherent national government, able to protect it and to enforce its rights in foreign lands, it is the shipping interest. But American ships, after the Treaty of Paris, hailed from thirteen independent but puny States. They had behind them the shadow of a confederacy, but no substance. The flags they carried were not only not respected in foreign countries—they were not known. Moreover, the States were jealous of each other, possessing no true community of interest, and each seeking advantage at the expense of its neighbors. They were already beginning to adopt among themselves the very tactics of harassing and crippling navigation laws which caused the protest against Great Britain. This "Critical Period of American History," as Professor Fiske calls it, was indeed a critical period for American shipping.

The new government, formed under the Constitution, was prompt to recognize the demands of the shipping interests upon the country. In the very first measure adopted by Congress steps were taken to encourage American shipping by differential duties levied on goods imported in American and foreign vessels. Moreover, in the tonnage duties imposed by Congress an advantage of almost 50 per cent. was given ships built in the United States and owned abroad. Under this stimulus the shipping interests throve, despite hostile legislation in England, and the disordered state of the high seas, where

French and British privateers were only a little less predatory than Algierian corsairs or avowed pirates. It was at this early day that Yankee skippers began making those long voyages that are hardly paralleled to-day when steamships hold to a single route like a trolley car between two towns. The East Indies was a favorite trading point. Carrying a cargo suited to the needs of perhaps a dozen different peoples, the vessel would put out from Boston or Newport, put in at Madeira perhaps, or at some West Indian port, dispose of part of its cargo, and proceed, stopping again and again on its way, and exchanging its goods for money or for articles thought to be more salable in the East Indies. Arrived there, all would be sold, and a cargo of tea, coffee, silks, spices, nankeen cloth, sugar, and other products of the country taken on. If these goods did not prove salable at home the ship would make yet another voyage and dispose of them at Hamburg or some other Continental port. In 1785 a Baltimore ship showed the Stars and Stripes in the Canton River, China. In 1788 the ship "Atlantic," of Salem, visited Bombay and Calcutta. The effect of being barred from British ports was not, as the British had expected, to put an abrupt end to American maritime enterprise. It only sent our hardy seamen on longer voyages, only brought our merchants into touch with the commerce of the most distant lands. Industry, like men, sometimes thrives upon obstacles.

For twenty-five years succeeding the adoption of the Constitution the maritime interest—both shipbuilding and shipowning — thrived more, perhaps, than any other gainful industry pursued by the Americans. Yet it was a time when every imaginable device was employed to keep our people out of the ocean-carrying trade. The British regulations, which denied us access to their ports, were imitated by the French. The Napoleonic wars came

on, and the belligerents bombarded each other with orders in council and decrees that fell short of their mark, but did havoc among neutral merchantmen. To the ordinary perils of the deep the danger of capture—lawful or unlawful—by cruiser or privateer, was always to be added. The British were still enforcing their so-called "right of search," and many an American ship was left short-handed far out at sea, after a British naval lieutenant had

"AFTER A BRITISH LIEUTENANT HAD PICKED THE BEST OF HER CREW"

picked the best of her crew on the pretense that they were British subjects. The superficial differences between an American and an Englishman not being as great as those

between an albino and a Congo black, it is not surprising that the boarding officer should occasionally make mistakes—particularly when his ship was in need of smart, active sailors. Indeed, in those years the civilized—by which at that period was meant the warlike—nations were all seeking sailors. Dutch, Spanish, French, and English were eager for men to man their fighting ships; hired them when they could, and stole them when they must. It was the time of the press gang, and the day when sailors carried as a regular part of their kit an outfit of women's clothing in which to escape if the word were passed that "the press is hot to-night." The United States had never to resort to impressment to fill its navy ships' companies, a fact perhaps due chiefly to the small size of its navy in comparison with the seafaring population it had to draw from.

As for the American merchant marine, it was full of British seamen. Beyond doubt inducements were offered them at every American port to desert and ship under the Stars and Stripes. In the winter of 1801 every British ship visiting New York lost the greater part of its crew. At Norfolk the entire crew of a British merchantman deserted to an American sloop-of-war. A lively trade was done in forged papers of American citizenship, and the British naval officer who gave a boat-load of bluejackets shore leave at New York was liable to find them all Americans when their leave was up. Other nations looked covetously upon our great body of able-bodied seamen, born within sound of the swash of the surf, nurtured in the fisheries, able to build, to rig, or to navigate a ship. They were fighting sailors, too, though serving only in the merchant marine. In those days the men that went down to the sea in ships had to be prepared to fight other antagonists than Neptune and Æolus. All the ships

went armed. It is curious to read in old annals of the number of cannon carried by small merchantmen. We find the "Prudent Sarah" mounting 10 guns; the "Olive Branch," belied her peaceful name with 3, while the pink "Friendship" carried 8. These years, too, were the privateers' harvest time. During the Revolution the ships owned by one Newburyport merchant took 23,360 tons of shipping and 225 men, the prizes with their cargoes selling for $3,950,000. But of the size and the profits of the privateering business more will be said in the chapter devoted to that subject. It is enough to note here that it made the American merchantman essentially a fighting man.

The growth of American shipping during the years 1794-1810 is almost incredible in face of the obstacles put in its path by hostile enactments and the perils of the war. In 1794 United States ships, aggregating 438,863 tons, breasted the waves, carrying fish and staves to the West Indies, bringing back spices, rum, cocoa, and coffee Sometimes they went from the West Indies to the Canaries, and thence to the west coast of Africa, where very valuable and very pitiful cargoes of human beings, whose black skins were thought to justify their treatment as dumb beasts of burden, were shipped. Again the East Indies opened markets for buying and selling both. But England and almost the whole of Western Europe were closed.

It is not possible to understand the situation in which the American sailor and shipowner of that day was placed, without some knowledge of the navigation laws and belligerent orders by which the trade was vexed. In 1793 the Napoleonic wars began, to continue with slight interruptions until 1815. France and England were the chief contestants, and between them American shipping was

sorely harried. The French at first seemed to extend to the enterprising Americans a boon of incalculable value to the maritime interest, for the National Convention promulgated a decree giving to neutral ships—practically to American ships, for they were the bulk of the neutral shipping—the rights of French ships. Overjoyed by this

EARLY TYPE OF SMACK

sudden opening of a rich market long closed, the Yankee barks and brigs slipped out of the New England harbors in schools, while the shipyards rung with the blows of the hammers, and the forest resounded with the shouts of the woodsmen getting out ship-timbers. The ocean

pathway to the French West Indies was flecked with sails, and the harbors of St. Kitts, Guadaloupe, and Martinique were crowded. But this bustling trade was short-lived. The argosies that set forth on their peaceful errand were shattered by enemies more dreaded than wind or sea. Many a ship reached the port eagerly sought only to rot there; many a merchant was beggared, nor knew what had befallen his hopeful venture until some belated consular report told of its condemnation in some French or English admiralty court.

For England met France's hospitality with a new stroke at American interests. The trade was not neutral, she said. France had been forced to her concession by war. Her people were starving because the vigilance of British cruisers had driven French cruisers from the seas, and no food could be imported. To permit Americans to purvey food for the French colonies would clearly be to undo the good work of the British navy. Obviously food was contraband of war. So all English men-of-war were ordered to seize French goods on whatever ship found; to confiscate cargoes of wheat, corn, or fish bound for French ports as contraband, and particularly to board all American merchantmen and scrutinize the crews for English-born sailors. The latter injunction was obeyed with peculiar zeal, so that the State Department had evidence that at one time, in 1806, there were as many as 6000 American seamen serving unwillingly in the British navy.

France, meanwhile, sought retaliation upon England at the expense of the Americans. The United States, said the French government, is a sovereign nation. If it does not protect its vessels against unwarrantable British aggressions it is because the Americans are secretly in league with the British. France recognizes no difference

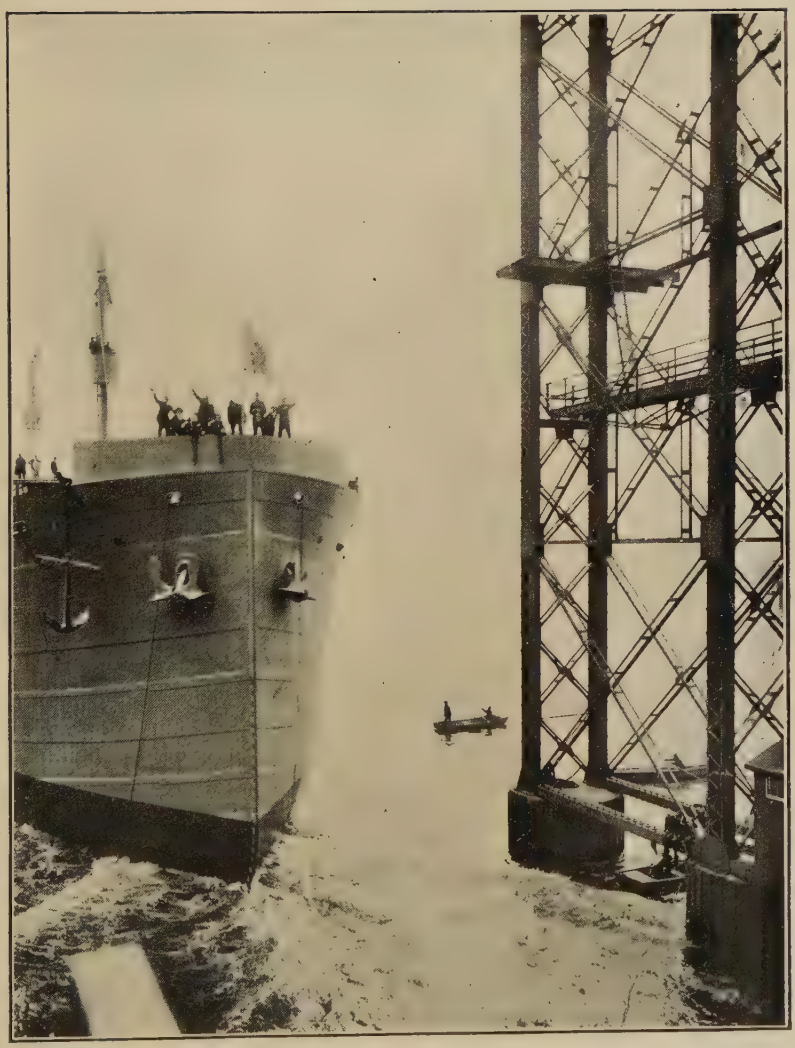
between its foes. So it is ordered that any American vessel which submitted to visitation and search from an English vessel, or paid dues in a British port, ceased to be neutral, and became subject to capture by the French.

The effect of these orders and decrees was simply that any American ship which fell in with an English or French man-of-war or privateer, or was forced by stress of weather to seek shelter in an English or French port, was lost to her owners. The times were rude, evidence was easy to manufacture, captains were rapacious, admiralty judges were complaisant, and American commerce was rich prey. The French West Indies fell an easy spoil to the British, and at Martinique and Basseterre American merchantmen were caught in the harbor. Their crews were impressed, their cargoes, not yet discharged, seized, the vessels themselves wantonly destroyed or libelled as prizes. Nor were passengers exempt from the rigors of search and plunder. The records of the State Department and the rude newspapers of the time are full of the complaints of shipowners, passengers, and shipping merchants. The robbery was prodigious in its amount, the indignity put upon the nation unspeakable. And yet the least complaint came from those who suffered most. The New England seaport towns were filled with idle seamen, their harbors with pinks, schooners, and brigs, lying lazily at anchor. The sailors, with the philosophy of men long accustomed to submit themselves to nature's moods and the vagaries of breezes, cursed British and French impartially, and joined in the general depression and idleness of the towns and counties dependent on their activity.

It was about this period (1794) that the American navy was begun; though, curiously enough, its foundation was not the outcome of either British or French depredations, but of the piracies of the Algerians. That fierce and

predatory people had for long years held the Mediterranean as a sort of a private lake into which no nation might send its ships without paying tribute. With singular cowardice, all the European peoples had acquiesced in this conception save England alone. The English were feared by the Algerians, and an English pass—which tradition says the illiterate Corsairs identified by measuring its enscrolled border, instead of by reading—protected any vessel carrying it. American ships, however, were peculiarly the prey of the Algerians, and many an American sailor was sold by them into slavery until Decatur and Rodgers in 1805 thrashed the piratical states of North Africa into recognition of American power. In 1794, however, the Americans were not eager for war, and diplomats strove to arrange a treaty which would protect American shipping, while Congress prudently ordered the beginning of six frigates, work to be stopped if peace should be made with the Dey. The treaty—not one very honorable to us—was indeed made some months later, and the frigates long remained unfinished.

It has been the fashion of late years to sneer at our second war with England as unnecessary and inconclusive. But no one who studies the records of the life, industry, and material interests of our people during the years between the adoption of the Constitution and the outbreak of that war can fail to wonder that it did not come sooner, and that it was not a war with France as well as England. For our people were then essentially a maritime people. Their greatest single manufacturing industry was ship-building. The fisheries—whale, herring, and cod—employed thousands of their men and supported more than one considerable town. The markets for their products lay beyond seas, and for their commerce an undisputed right to the peaceful passage of the



ONE OF OUR NEW SHIPS TAKING WATER

ocean was necessary. Yet England and France, prosecuting their own quarrel, fairly ground American shipping as between two millstones. Our sailors were pressed, our ships seized, their cargoes stolen, under hollow forms of law. The high seas were treated as though they were the hunting preserves of these nations and American ships were quail and rabbits. The London "Naval Chronicle" at that time, and for long after, bore at the head of its columns the boastful lines:

> "The sea and waves are Britain's broad domain,
> And not a sail but by permission spreads."

And France, while vigorously denying the maxim in so far as it related to British domination, was not able to see that the ocean could be no one nation's domain, but must belong equally to all. It was the time when the French were eloquently discoursing of the rights of man; but they did not appear to regard the peaceful navigation of the ocean as one of those rights; they were preaching of the virtues of the American republic, but their rulers issued orders and decrees that nearly brought the two governments to the point of actual war. But the very fact that France and England were almost equally arrogant and aggressive delayed the formal declaration of hostilities. Within the United States two political parties—the Federalists and the Republicans—were struggling for mastery. The one defended, though half-heartedly, the British, and demanded drastic action against the French spoliators. The other denounced British insolence and extolled our ancient allies and brothers in republicanism, the French. While the politicians quarreled the British stole our sailors and the French stole our ships. In 1798 our, then infant, navy gave bold resistance to the French ships, and for a time

a quasi-war was waged on the ocean, in which the frigates "Constitution" and "Constellation" laid the foundation for that fame which they were to finally achieve in the war with Great Britain in 1812. No actual war with France grew out of her aggressions. The Republicans came into power in the United States, and by diplomacy averted an actual conflict. But the American shipping interests suffered sadly meanwhile. The money finally paid by France as indemnity for her unwarranted spoliations lay long undivided in the United States Treasury, and the easy-going labor of urging and adjudicating French spoliation claims furnished employment to some generations of politicians after the despoiled seamen and shipowners had gone down into their graves.

In 1800 the whole number of American ships in foreign and coasting trades and the fisheries had reached a tonnage of 972,492. The growth was constant, despite the handicap resulting from the European wars. Indeed, it is probable that those wars stimulated American shipping more than the restrictive decrees growing out of them retarded it, for they at least kept England and France (with her allies) out of the active encouragement of maritime enterprise. But the vessels of that day were mere pigmies, and the extent of the trade carried on in them would at this time seem trifling. The gross exports and imports of the United States in 1800 were about $75,000,000 each. The vessels that carried them were of about 250 tons each, the largest attaining 400 tons. An irregular traffic was carried on along the coast, and it was 1801 before the first sloop was built to ply regularly on the Hudson between New York and Albany. She was of 100 tons, and carried passengers only. Sometimes the trip occupied a week, and the owner of the sloop established an innovation by supplying beds, pro-

visions, and wines for his passengers. Between Boston and New York communication was still irregular, passengers waiting for cargoes. But small as this maritime interest now seems, more money was invested in it, and it occupied more men, than any other American industry, save only agriculture.

To this period belong such shipowners as William Gray, of Boston, who in 1809, though he had sixty great square-rigged ships in commission, nevertheless heartily approved of the embargo with which President Jefferson vainly strove to combat the outrages of France and England. Though the commerce of those days was world-wide, its methods—particularly on the bookkeeping side—were primitive. "A good captain," said Merchant Gray, "will sail with a load of fish to the West Indies, hang up a stocking in the cabin on arriving, put therein hard dollars as he sells fish, and pay out when he buys rum, molasses, and sugar, and hand in the stocking on his return in full of all accounts." The West Indies, though a neighboring market, were far from monopolizing the attention of the New England shipping merchants. Ginseng and cash were sent to China for silks and tea, the voyage each way, around the tempestuous Horn, occupying six months. In 1785 the publication of the journals of the renowned explorer, Captain Cook, directed the ever-alert minds of the New Englanders to the great herds of seal and sea-otters on the northwestern coast of the United States, and vessels were soon faring thither in pursuit of fur-bearing animals, then plentiful, but now bidding fair to become as rare as the sperm-whale. A typical expedition of this sort was that of the ship "Columbia," Captain Kendrick, and the sloop "Washington," Captain Gray, which sailed September 30, 1787, bound to the northwest coast and China. The merchant who

saw his ships drop down the bay bound on such a voyage said farewell to them for a long time—perhaps forever. Years must pass before he could know whether the money he had invested, the cargo he had adventured, the stout ships he had dispatched, were to add to his fortune or to be at last a total loss. Perhaps for months he might be going about the wharves and coffee-houses, esteeming himself a man of substance and so held by all his neighbors, while in fact his all lay whitening in the surf on some far-distant Pacific atoll. So it was almost three years before news came back to Boston of these two ships; but then it was glorious, for then the "Federalist," of New York, came into port, bringing tidings that at Canton she had met the "Columbia," and had been told of the discovery by that vessel of the great river in Oregon to which her name had been given. Thus Oregon and Washington were given to the infant Union, the latter perhaps taking its name from the little sloop of 90 tons which accompanied the "Columbia" on her voyage. Six months later the two vessels reached Boston, and were greeted with salutes of cannon from the forts. They were the first American vessels to circumnavigate the globe. It is pleasant to note that a voyage which was so full of advantage to the nation was profitable to the owners. Thereafter an active trade was done with miscellaneous goods to the northwest Indians, skins and furs thence to the Chinese, and teas home. A typical outbound cargo in this trade was that of the "Atakualpa" in 1800. The vessel was of 218 tons, mounted eight guns, and was freighted with broadcloth, flannel, blankets, powder, muskets, watches, tools, beads, and looking-glasses. How great were the proportions that this trade speedily assumed may be judged from the fact that between June, 1800, and January, 1803, there were im-

ported into China, in American vessels, 34,357 sea-otter skins, worth on an average $18 to $20 each. Over a million sealskins were imported. In this trade were employed 80 ships and 9 brigs and schooners, more than half of them from Boston.

THE SNOW, AN OBSOLETE TYPE

Indeed, by the last decade of the eighteenth century Boston had become the chief shipping port of the United States. In 1790 the arrivals from abroad at that port

were 60 ships, 7 snows, 159 brigs, 170 schooners, 59 sloops, besides coasters estimated to number 1,220 sail. In the *Independent Chronicle*, of October 27, 1791, appears the item: "Upwards of seventy sail of vessels sailed from this port on Monday last, for all parts of the world." A descriptive sketch, written in 1794 and printed in the Massachusetts Historical Society collections, says of the appearance of the water front at that time:

"There are eighty wharves and quays, chiefly on the east side of the town. Of these the most distinguished is Boston pier, or the Long Wharf, which extends from the bottom of State Street 1,743 feet into the harbor. Here the principal navigation of the town is carried on; vessels of all burdens load and unload; and the London ships generally discharge their cargoes. . . . The harbor of Boston is at this date crowded with vessels. It is reckoned that not less than 450 sail of ships, brigs, schooners, sloops, and small craft are now in this port."

New York and Baltimore, in a large way; Salem, Hull, Portsmouth, New London, New Bedford, New Haven, and a host of smaller seaports, in a lesser degree, joined in this prosperous industry. It was the great interest of the United States, and so continued, though with interruptions, for more than half a century, influencing the thought, the legislation, and the literature of our people. When Daniel Webster, himself a son of a seafaring State, sought to awaken his countrymen to the peril into which the nation was drifting through sectional dissensions and avowed antagonism to the national authority, he chose as the opening metaphor of his reply to Hayne the description of a ship, drifting rudderless and helpless on the trackless ocean, exposed to perils both known and unknown. The orator knew his audience. To all New England the picture had the vivacity

of life. The metaphors of the sea were on every tongue. The story is a familiar one of the Boston clergyman who, in one of his discourses, described a poor, sinful soul drifting toward shipwreck so vividly that a sailor in the audience, carried away by the preacher's imaginative skill, cried out: "Let go your best bower anchor, or you're lost." In another church, which had its pulpit set at the side instead of at the end, as customary, a sailor remarked critically: "I don't like this craft; it has its rudder amidships."

At this time, and, indeed, for perhaps fifty years thereafter, the sea was a favorite career, not only for American boys with their way to make in the world, but for the sons of wealthy men as well. That classic of New England seamanship, "Two Years Before the Mast," was not written until the middle of the nineteenth century, and its author went to sea, not in search of wealth, but of health. But before the time of Richard Henry Dana, many a young man of good family and education—a Harvard graduate like him, perhaps—bade farewell to a home of comfort and refinement and made his berth in a smoky, fetid forecastle to learn the sailor's calling. The sons of the great shipping merchants almost invariably made a few voyages—oftenest as supercargoes, perhaps, but not infrequently as common seamen. In time special quarters, midway between the cabin and the forecastle, were provided for these apprentices, who were known as the "ship's cousins." They did the work of the seamen before the mast, but were regarded as brevet officers. There was at that time less to engage the activities and arouse the ambitions of youth than now, and the sea offered the most promising career. Moreover, the trading methods involved, and the relations of the captain or other officers to the owners, were

such as to spur ambition and promise profit. The merchant was then greatly dependent on his captain, who must judge markets, buy and sell, and shape his course without direction from home. So the custom arose of giving the captain—and sometimes other officers—an opportunity to carry goods of their own in the ship, or to share the owner's adventure. In the whaling and fishery business we shall see that an almost pure communism prevailed. These conditions attracted to the maritime calling men of an enterprising and ambitious nature—men to whom the conditions to-day of mere wage servitude, fixed routes, and constant dependence upon the cabled or telegraphed orders of the owner would be intolerable. Profits were heavy, and the men who earned them were afforded opportunities to share them. Ships were multiplying fast, and no really lively and alert seaman need stay long in the forecastle. Often they became full-fledged captains and part owners at the age of twenty-one, or even earlier, for boys went to sea at ages when the youngsters of equally prosperous families in these days would scarcely have passed from the care of a nurse to that of a tutor. Thomas T. Forbes, for example, shipped before the mast at the age of thirteen; was commander of the "Levant" at twenty; and was lost in the Canton River before he was thirty. He was of a family great in the history of New England shipping for a hundred years. Nathaniel Silsbee, afterwards United States Senator from Massachusetts, was master of a ship in the East India trade before he was twenty-one; while John P. Cushing at the age of sixteen was the sole—and highly successful—representative in China of a large Boston house. William Sturges, afterwards the head of a great world-wide trading house, shipped at seventeen, was a captain and manager in the China trade at nineteen,

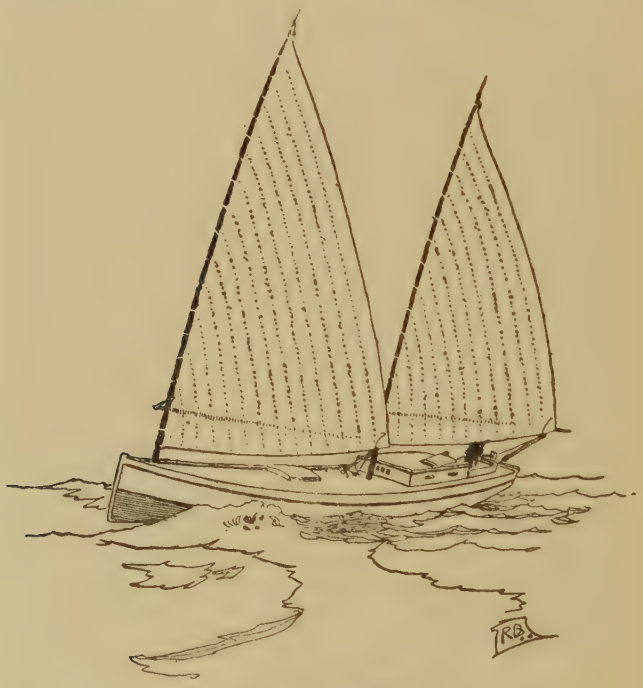
and at twenty-nine left the quarter-deck with a competence to establish his firm, which at one time controlled half the trade between the United States and China. A score of such successes might be recounted.

But the fee which these Yankee boys paid for introduction into their calling was a heavy one. Dana's description of life in the forecastle, written in 1840, holds good for the conditions prevailing for forty years before and forty after he penned it. The greeting which his captain gave to the crew of the brig "Pilgrim" was repeated, with little variation, on a thousand quarter-decks:

"Now, my men, we have begun a long voyage. If we get along well together we shall have a comfortable time; if we don't, we shall have hell afloat. All you have to do is to obey your orders and do your duty like men—then you will fare well enough; if you don't, you will fare hard enough, I can tell you. If we pull together you will find me a clever fellow; if we don't, you will find me a bloody rascal. That's all I've got to say. Go below the larboard watch."

But the note of roughness and blackguardism was not always sounded on American ships. We find, in looking over old memoirs, that more than one vessel was known as a "religious ship"—though, indeed, the very fact that few were thus noted speaks volumes for the paganism of the mass. But the shipowners of Puritan New England not infrequently laid stress on the moral character of the men shipped. Nathaniel Ames, a Harvard graduate who shipped before the mast, records that on his first vessel men seeking berths even in the forecastle were ordered to bring certificates of good character from the clergyman whose church they had last attended. Beyond doubt, however, this was a most unusual requirement. More often the majority of the crew were rough, illiterate

fellows, often enticed into shipping while under the influence of liquor, and almost always coming aboard at the last moment, much the worse for long debauches. The men of a better sort who occasionally found themselves unluckily shipped with such a crew, have left on record many curious stories of the way in which sailors, utterly



THE BUG-EYE

unable to walk on shore or on deck for intoxication, would, at the word of command, spring into the rigging, clamber up the shrouds, shake out reefs, and perform the most difficult duties aloft.

Most of the things which go to make the sailor's lot

at least tolerable nowadays, were at that time unknown. A smoky lamp swung on gimbals half-lighted the forecastle—an apartment which, in a craft of scant 400 tons, did not afford commodious quarters for a crew of perhaps a score, with their sea chests and bags. The condition of the fetid hole at the beginning of the voyage, with four or five apprentices or green hands deathly sick, the hardened seamen puffing out clouds of tobacco smoke, and perhaps all redolent of rum, was enough to disenchant the most ardent lover of the sea. The food, bad enough in all ages of seafaring, was, in the early days of our merchant marine, too often barely fit to keep life in men's bodies. The unceasing round of salt pork, stale beef, "duff," "lobscouse," doubtful coffee sweetened with molasses, and water, stale, lukewarm, and tasting vilely of the hogshead in which it had been stored, required sturdy appetites to make it even tolerable. Even in later days Frank T. Bullen was able to write: "I have often seen the men break up a couple of biscuits into a pot of coffee for their breakfast, and after letting it stand a minute or two, skim off the accumulated scum of vermin from the top—maggots, weevils, etc—to the extent of a couple of tablespoonsful, before they could shovel the mess into their craving stomachs."

It may be justly doubted whether history has ever known a race of men so hardy, so self-reliant, so adaptable to the most complex situations, so determined to compel success, and so resigned in the presence of inevitable failure, as the early American sea captains. Their lives were spent in a ceaseless conflict with the forces of nature and of men. They had to deal with a mutinous crew one day and with a typhoon the next. If by skillful seamanship a piratical schooner was avoided in the reaches of the Spanish Main, the resources of diplomacy

would be taxed the next day to persuade some English or French colonial governor not to seize the cargo that had escaped the pirates. The captain must be a seaman, a sea-soldier, a sea-lawyer, and a sea-merchant, shut off from his principals by space which no electric current then annihilated. He must study markets, sell his cargo at the most profitable point, buy what his prophetic vision suggested would sell profitably, and sell half a dozen intermediate cargoes before returning, and even dispose of the vessel herself, if gain would result. His experience was almost as much commercial as nautical, and many of the shipping merchants who formed the aristocracy of old New York and Boston, mounted from the forecastle to the cabin, thence to the counting-room.

In a paper on the maritime trade of Salem, the Rev. George Bachelor tells of the conditions of this early seafaring, the sort of men engaged in it, and the stimulus it offered to all their faculties:

"After a century of comparative quiet, the citizens of the little town were suddenly dispersed to every part of the Oriental world, and to every nook of barbarism which had a market and a shore. The borders of the commercial world received sudden enlargement, and the boundaries of the intellectual world underwent similar expansion. The reward of enterprise might be the discovery of an island in which wild pepper enough to load a ship might be had almost for the asking, or of forests where precious gems had no commercial value, or spice islands unvisited and unvexed by civilization. Every ship-master and every mariner returning on a richly loaded ship was the custodian of valuable information. In those days crews were made up of Salem boys, every one of whom expected to become an East Indian merchant. When a captain was asked at Manila how he contrived to find his way in the teeth of a northeast monsoon by mere dead reckoning, he replied that he had a crew of twelve men, any one of whom could take and work a lunar observation as well, for all practical purposes, as Sir Isaac Newton himself.

"When, in 1816, George Coggeshall coasted the Mediterranean in the 'Cleopatra's Barge,' a magnificent yacht of 197 tons, which excited the wonder even of the Genoese, the black cook, who had once sailed with Bowditch, was found to be as competent to keep a ship's reckoning as any of the officers.

"Rival merchants sometimes drove the work of preparation night and day, when virgin markets had favors to be won, and ships which set out for unknown ports were watched when they slipped their cables and sailed away by night, and dogged for months on the high seas, in the hopes of discovering a secret, well kept by the owner and crew. Every man on board was allowed a certain space for his own little venture. People in other pursuits, not excepting the owner's minister, entrusted their savings to the supercargo, and watched eagerly the result of their adventure. This great mental activity, the profuse stores of knowledge brought by every ship's crew, and distributed, together with India shawls, blue china, and unheard-of curiosities from every savage shore, gave the community a rare alertness of intellect."

The spirit in which young fellows, scarcely attained to years of maturity, met and overcame the dangers of the deep is vividly depicted in Captain George Coggeshall's narrative of his first face-to-face encounter with death. He was in the schooner "Industry," off the Island of Teneriffe, during a heavy gale.

"Captain K. told me I had better go below, and that he would keep an outlook and take a little tea biscuit on deck. I had entered the cabin, when I felt a terrible shock. I ran to the companion-way, when I saw a ship athwart our bows. At that moment our foremast went by the board, carrying with it our main topmast. In an instant the two vessels separated, and we were left a perfect wreck. The ship showed a light for a few moments and then disappeared, leaving us to our fate. When we came to examine our situation, we found our bowsprit gone close to the knight-heads." An investiga-

tion showed that the collision had left the "Industry" in a grievous state, while the gale, ever increasing, blew directly on shore. But the sailors fought sturdily for life. "To retard the schooner's drift, we kept the wreck of the foremast, bowsprit, sails, spars, etc., fast by the

A "PINK"

bowsprit shrouds and other ropes, so that we drifted to leeward but about two miles the hour. To secure the mainmast was now the first object. I therefore took with me one of the best of the crew, and carried the end

of a rope cable with us up to the mainmast head, and clenched it round the mast, while it was badly springing. We then took the cable to the windlass and hove taut, and thus effectually secured the mast. . . . We were then drifting directly on shore, where the cliffs were rocky, abrupt, and almost perpendicular, and were perhaps almost 1,000 feet high. At each blast of lightning we could see the surf break, whilst we heard the awful roar of the sea dashing and breaking against the rocks and caverns of this iron-bound island.

"When I went below I found the captain in the act of going to bed; and as near as I can recollect, the following dialogue took place:

" 'Well, Captain K., what shall we do next? We have now about six hours to pass before daylight; and, according to my calculation, we have only about three hours more drift. Still, before that time there may, perhaps, be some favorable change.'

"He replied: 'Mr. C., we have done all we can, and can do nothing more. I am resigned to my fate, and think nothing can save us.'

"I replied: 'Perhaps you are right; still, I am resolved to struggle to the last. I am too young to die; I am only twenty-one years of age, and have a widowed mother, three brothers, and a sister looking to me for support and sympathy. No, sir, I will struggle and persevere to the last.'

" 'Ah,' said he, 'what can you do? Our boat will not live five minutes in the surf, and you have no other resource.'

" 'I will take the boat,' said I, 'and when she fills I will cling to a spar. I will not die until my strength is exhausted and I can breathe no longer.' Here the conversation ended, when the captain covered his head with

a blanket. I then wrote the substance of our misfortune in the log-book, and also a letter to my mother; rolled them up in a piece of tarred canvas; and, assisted by the carpenter, put the package into a tight keg, thinking that this might probably be thrown on shore, and thus our friends might perhaps know of our end."

Men who face Death thus sturdily are apt to overcome him. The gale lessened, the ship was patched up, the craven captain resumed command, and in two weeks' time the "Industry" sailed, sorely battered, into Santa Cruz, to find that she had been given up as lost, and her officers and crew "were looked upon as so many men risen from the dead." Young Coggeshall lived to follow the sea until gray-haired and weather-beaten, to die in his bed at last, and to tell the story of his eighty voyages in two volumes of memoirs, now growing very rare. Before he was sixteen he had made the voyage to Cadiz —a port now moldering, but which once was one of the great portals for the commerce of the world. In his second voyage, while lying in the harbor of Gibraltar, he witnessed one of the almost every-day dangers to which American sailors of that time were exposed:

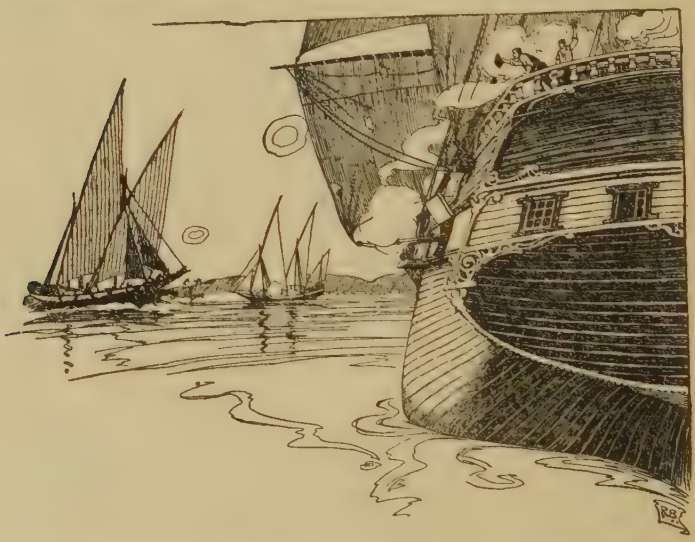
"While we were lying in this port, one morning at daylight we heard firing at a distance. I took a spy-glass, and from aloft could clearly see three gunboats engaged with a large ship. It was a fine, clear morning, with scarcely wind enough to ruffle the glass-like surface of the water. During the first hour or two of this engagement the gunboats had an immense advantage; being propelled both by sails and oars, they were enabled to choose their own position. While the ship lay becalmed and unmanageable they poured grape and canister shot into her stern and bows like hailstones. At this time the ship's crew could not bring a single gun to bear upon them, and all they could do was to use their small arms through the ports and over the rails. Fortunately for the crew, the ship had thick and high bulwarks, which protected them from the fire of the enemy, so that while they

were hid and screened by the boarding cloths, they could use their small arms to great advantage. At this stage of the action, while the captain, with his speaking-trumpet under his left arm, was endeavoring to bring one of his big guns to bear on one of the gunboats, a grapeshot passed through the port and trumpet and entered his chest near his shoulder-blade. The chief mate carried him below and laid him upon a mattress on the cabin floor. For a moment it seemed to dampen the ardor of the men; but it was but for an instant. The chief mate (I think his name was Randall), a gallant young man from Nantucket, then took the command, rallied, and encouraged the men to continue the action with renewed obstinacy and vigor. At this time a lateen-rigged vessel, the largest of the three privateers, was preparing to make a desperate atempt to board the ship on the larboard quarter, and, with nearly all his men on the forecastle and long bowsprit, were ready to take the final leap.

"In order to meet and frustrate the design of the enemy, the mate of the ship had one of the quarter-deck guns loaded with grape and canister shot; he then ordered all the ports on this quarter to be shut, so that the gun could not be seen; and thus were both parties prepared when the privateer came boldly up within a few yards of the ship's lee quarter. The captain, with a threatening flourish of his sword, cried out with a loud voice, in broken English: 'Strike, you damned rascal, or I will put you all to death.' At this moment a diminutive-looking man on board the 'Louisa,' with a musket, took deliberate aim through one of the waist ports, and shot him dead. Instantly the gun was run out and discharged upon the foe with deadly effect, so that the remaining few on board the privateer, amazed and astounded, were glad to give up the conflict and get off the best way they could.

"Soon after this a breeze sprung up, so that they could work their great guns to some purpose. I never shall forget the moment when I saw the Star-Spangled Banner blow out and wave gracefully in the wind, through the smoke. I also at the same moment saw with pleasure the three gunboats sailing and rowing away toward the land to make their escape. When the ship drew near the port, all the boats from the American shipping voluntarily went to assist in bringing her to anchor. She proved to be the letter-of-marque ship 'Louisa,' of Philadelphia.

"I went with our captain on board of her, and we there learned that, with the exception of the captain, not a man had been killed or wounded. The ship was terribly cut up and crippled in her sails and rigging—lifts and braces shot away; her stern was literally riddled like a grater, and both large and small shot, in great numbers, had entered her hull and were sticking to her sides. How the officers and crew escaped unhurt is almost impossible to conceive. The poor captain was immediately taken on shore, but only survived his wound a few



"INSTANTLY THE GUN WAS RUN OUT AND DISCHARGED"

days. He had a public funeral, and was followed to the grave by all the Americans in Gibraltar, and very many of the officers of the garrison and inhabitants of the town.

"The ship had a rich cargo of coffee, sugar, and India goods on board, and I believe was bound for Leghorn. The gunboats belonged to Algeciras and fought under French colors, but were probably manned by the debased of all nations. I can form no idea how many were killed or wounded on board the gunboats, but from the great number of men on board, and from

the length of the action, there must have been great slaughter. Neither can I say positively how long the engagement lasted; but I should think at least from three to four hours. To the chief mate too much credit can not be given for saving the ship after the captain was shot."

This action occurred in 1800, and the assailants fought under French colors, though the United States were at peace with France. It was fought within easy eyesight of Gibraltar, and therefore in British waters; but no effort was made by the British men-of-war—always plentiful there—to maintain the neutrality of the port. For sailors to be robbed or murdered, or to fight with desperation to avert robbery and murder, was then only a commonplace of the sea. Men from the safety of the adjoining shore only looked on in calm curiosity, as nowadays men look on indifferently to see the powerful freebooter of the not less troubled business sea rob, impoverish, and perhaps drive down to untimely death others who only ask to be permitted to make their little voyages unvexed by corsairs.

From a little book of memoirs of Captain Richard J. Cleveland, the curious observer can learn what it was to belong to a seafaring family in the golden days of American shipping. His was a Salem stock. His father, in 1756, when but sixteen years old, was captured by a British press-gang in the streets of Boston, and served for years in the British navy. For this compulsory servitude he exacted full compensation in later years by building and commanding divers privateers to prey upon the commerce of England. His three sons all became sailors, taking to the water like young ducks. A characteristic note of the cosmopolitanism of the young New Englander of that day is sounded in the most matter-of-fact fashion by young

Cleveland in a letter from Havre: "I can't help loving home, though I think a young man ought to be at home in any part of the globe." And at home everywhere Captain Cleveland certainly was. All his life was spent in wandering over the Seven Seas, in ships of every size, from a 25-ton cutter to a 400-ton Indiaman. In those days of navigation laws, blockades, hostile cruisers, hungry privateers, and bloodthirsty pirates, the smaller craft was often the better, for it was wiser to brave nature's moods in a cockle-shell than to attract men's notice in a great ship. Captain Cleveland's voyages from Havre to the Cape of Good Hope, in a 45-ton cutter; from Calcutta to the Isle of France, in a 25-ton sloop; and Captain Coggeshall's voyage around Cape Horn in an unseaworthy pilot-boat are typical exploits of Yankee seamanship. We see the same spirit manifested occasionally nowadays when some New Englander crosses the ocean in a dory, or circumnavigates the world alone in a 30-foot sloop. But these adventures are apt to end ignominiously in a dime museum.

A noted sailor in his time was Captain Benjamin I. Trask, master of many ships, ruler of many deeps, who died in harness in 1871, and for whom the flags on the shipping in New York Bay were set at half-mast. An appreciative writer, Mr. George W. Sheldon, in *Harper's Magazine,* tells this story to show what manner of man he was; it was on the ship "Saratoga," from Havre to New York, with a crew among whom were several recently liberated French convicts:

"The first day out the new crew were very troublesome, owing in part, doubtless, to the absence of the mate, who was ill in bed and who died after a few hours. Suddenly the second mate, son of the commander, heard his father call out, 'Take hold of the wheel,' and going forward, saw him holding a sailor

at arm's length. The mutineer was soon lodged in the cock-pit; but all hands—the watch below and the watch on deck—came aft as if obeying a signal, with threatening faces and clenched fists. The captain, methodical and cool, ordered his son to run a line across the deck between him and the rebellious crew, and to arm the steward and the third mate.

"'Now go forward and get to work', he said to the gang, who immediately made a demonstration to break the line. 'The first man who passes that rope,' added the captain, 'I will shoot. I am going to call you one by one; if two come at a time I will shoot both.'

"The first to come forward was a big fellow in a red shirt. He had hesitated to advance when called; but the 'I will give you one more invitation, sir,' of the captain furnished him with the requisite resolution. So large were his wrists that ordinary shackles were too small to go around them, and ankle-shackles took their place. Escorted by the second and third mates to the cabin, he was made to lie flat on his stomach, while staples were driven through the chains of his handcuffs to pin him down. After eighteen of the mutineers had been similarly treated, the captain himself withdrew to the cabin and lay on a sofa, telling the second mate to call him in an hour. The next minute he was asleep with the stapled ruffians all around him."

As the ocean routes became more clearly defined, and the limitations and character of international trade more systematized, there sprung up a new type of American ship-master. The older type—and the more romantic—was the man who took his ship from Boston or New York, not knowing how many ports he might enter nor in how many markets he might have to chaffer before his return. But in time there came to be regular trade routes, over which ships went and came with almost the regularity of the great steamships on the Atlantic ferry to-day. Early in the nineteenth century the movement of both freight and passengers between New York or Boston on this side and London and Liverpool on the other began to demand regular sailings on announced

days, and so the era of the American packet-ship began. Then, too, the trade with China grew to such great proportions that some of the finest fortunes America knew—in the days before the "trust magnate" and the "multi-millionaire"—were founded upon it. The clipper-built ship, designed to bring home the cargoes of tea in season to catch the early market, was the outcome of this trade. Adventures were still for the old-time trading captain who wandered about from port to port with miscellaneous cargoes; but the new aristocracy of the sea trod the deck of the packets and the clippers. Their ships were built all along the New England coast; but builders on the shores of Chesapeake Bay soon began to struggle for preëminence in this style of naval architecture. Thus, even in the days of wooden ships, the center of the ship-building industry began to move toward that point where it now seems definitely located. By 1815 the name "Baltimore clipper" was taken all over the world to signify the highest type of merchant vessel that man's skill could design. It was a Baltimore ship which first, in 1785, displayed the American flag in the Canton River and brought thence the first cargo of silks and teas. Thereafter, until the decline of American shipping, the Baltimore clippers led in the Chinese trade. These clippers in model were the outcome of forty years of effort to evade hostile cruisers, privateers, and pirates on the lawless seas. To be swift, inconspicuous, quick in maneuvering, and to offer a small target to the guns of the enemy, were the fundamental considerations involved in their design. Mr. Henry Hall, who, as special agent for the United States census, made in 1880 an inquiry into the history of ship-building in the United States, says in his report:

"A permanent impression has been made upon the form and rig of American vessels by forty years of war and interference. It was during that period that the shapes and fashions that prevail to-day were substantially attained. The old high poop-decks and quarter galleries disappeared with the lateen and the lug-sails on brigs, barks, and ships; the sharp stem was permanently abandoned; the curving home of the stem above the house poles went out of vogue, and vessels became longer in proportion to beam. The round bottoms were much in use, but the tendency toward a straight rise of the floor from the keel to a point half-way to the outer width of the ship became marked and popular. Hollow water-lines fore and aft were introduced; the forefoot of the hull ceased to be cut away so much, and the swell of the sides became less marked; the bows became somewhat sharper and were often made flaring above the water, and the square sprit-sail below the bowsprit was given up. American ship-builders had not yet learned to give their vessels much sheer, however, and in a majority of them the sheer line was almost straight from stem to stern; nor had they learned to divide the topsail into an upper and lower sail, and American vessels were distinguished by their short lower mast and the immense hoist of the topsail. The broadest beam was still at two-fifths the length of the hull. Hemp rigging, with broad channels and immense tops to the masts, was still retained; but the general arrangement and cut of the head, stay, square, and spanker sails at present in fashion were reached. The schooner rig had also become thoroughly popularized, especially for small vessels requiring speed; and the fast vessels of the day were the brigs and schooners, which were made long and sharp on the floor and low in the water, with considerable rake to the masts."

Such is the technical description of the changes which years of peril and of war wrought in the model of the American sailing ship. How the vessel herself, under full sail, looked when seen through the eyes of one who was a sailor, with the education of a writer and the temperament of a poet, is well told in these lines from "Two Years Before the Mast":

"Notwithstanding all that has been said about the beauty of a ship under full sail, there are very few who have ever seen a ship literally under all her sail. A ship never has all her sail upon her except when she has a light, steady breeze very nearly, but not quite, dead aft, and so regular that it can be trusted and is likely to last for some time. Then, with all her sails, light and heavy, and studding-sails on each side alow and aloft, she is the most glorious moving object in the world. Such a sight very few, even some who have been at sea a good deal, have ever beheld; for from the deck of your own vessel you can not see her as you would a separate object.

"One night, while we were in the tropics, I went out to the end of the flying jib-boom upon some duty; and, having finished it, turned around and lay over the boom for a long time, admiring the beauty of the sight before me. Being so far out from the deck, I could look at the ship as at a separate vessel; and there rose up from the water, supported only by the small black hull, a pyramid of canvas spreading far out beyond the hull and towering up almost, as it seemed in the indistinct night, into the clouds. The sea was as still as an inland lake; the light trade-wind was gently and steadily breathing from astern; the dark-blue sky was studded with the tropical stars; there was no sound but the rippling of the water under the stem; and the sails were spread out wide and high—the two lower studding-sails stretching on either side far beyond the deck; the topmost studding-sails like wings to the topsails; the topgallant studding-sails spreading fearlessly out above them; still higher the two royal studding-sails, looking like two kites flying from the same string; and highest of all the little sky-sail, the apex of the pyramid, seeming actually to touch the stars and to be out of reach of human hand. So quiet, too, was the sea, and so steady the breeze, that if these sails had been sculptured marble they could not have been more motionless—not a ripple on the surface of the canvas; not even a quivering of the extreme edges of the sail, so perfectly were they distended by the breeze. I was so lost in the sight that I forgot the presence of the man who came out with me, until he said (for he, too, rough old man-of-war's man that he was, had been gazing at the show), half to himself, still looking at the marble sails: 'How quietly they do their work!'"

The building of packet ships began in 1814, when some semblance of peace and order appeared upon the ocean, and continued until almost the time of the Civil War, when steamships had already begun to cut away the business of the old packets, and the Confederate cruisers were not needed to complete the work. But in their day these were grand examples of marine architecture. The first of the American transatlantic lines was the Black Ball line, so called from the black sphere on the white pennant which its ships displayed. This line was founded in 1815, by Isaac Wright & Company, with four ships sailing the first of every month, and making the outward run in about twenty-three days, the homeward voyage in about forty. These records were often beaten by ships of this and other lines. From thirteen to fifteen days to Liverpool was not an unknown record, but was rare enough to cause comment.

It was in this era that the increase in the size of ships began—an increase which is still going on without any sign of check. Before the War of 1812 men circumnavigated the world in vessels that would look small now carrying brick on the Tappan Zee. The performances of our frigates in 1812 first called the attention of builders to the possibilities of the bigger ship. The early packets were ships of from 400 to 500 tons each. As business grew larger ones were built—stout ships of 900 to 1100 tons, double-decked, with a poop-deck aft and a top-gallant forecastle forward. The first three-decker was the "Guy Mannering," 1419 tons, built in 1849 by William H. Webb. of New York, who later founded the college and home for ship-builders that stands on the wooded hills north of the Harlem River. In 1841, Clark & Sewall, of Bath, Me.—an historic house—built the "Rappahannock," 179.6 feet long, with a tonnage of

1133 tons. For a time she was thought to be as much of a "white elephant" as the "Great Eastern" afterwards proved to be. People flocked to study her lines on the ways and see her launched. They said only a Rothschild could afford to own her, and indeed when she appeared in the Mississippi—being built for the cotton trade—freights to Liverpool instantly fell off. But thereafter the size of ships—both packet and clippers—steadily and rapidly increased. Glancing down the long table of ships and their records prepared for the United States census, we find such notations as these.

Ship "Flying Cloud," built 1851; tonnage 1782; 374 miles in one day; from New York to San Francisco in 89 days 18 hours; in one day she made 433½ miles, but reducing this to exactly 24 hours, she made 427½ miles.

Ship "Comet," built 1851; tonnage 1836; beautiful model and good ship; made 332 knots in 24 hours, and 1512 knots in 120 consecutive hours.

"Sovereign of the Seas," built 1852; tonnage 2421; ran 6,245 miles in 22 days; 436 miles in one day; for four days her average was 398 miles.

"Lightning," built 1854; tonnage 2084; ran 436 miles in 24 hours, drawing 22 feet; from England to Calcutta with troops, in 87 days, beating other sailing vessels by from 16 to 40 days; from Boston to Liverpool in 13 days 20 hours.

"James Baines," built 1854, tonnage 2515; from Boston to Liverpool in 12 days 6 hours.

Three of these ships came from the historic yards of Donald McKay, at New York, one of the most famous of American ship-builders. The figures show the steady gain in size and speed that characterized the work of American ship-builders in those days. Then the United States was in truth a maritime nation. Every boy knew the

sizes and records of the great ships, and each magnificent clipper had its eager partisans. Foreign trade was active. Merchants made great profit on cargoes from China, and speed was a prime element in the value of a ship. In 1840 the discovery of gold in California added a new demand for ocean shipping; the voyage around the Horn, already common enough for whalemen and men engaged in Asiatic trade, was taken by tens of thousands of adventurers. Then came the news of gold in Australia, and again demands were clamorous for more swift American ships. All nations of Europe were buyers at our shipyards, and our builders began seriously to consider whether the supply of timber would hold out. The yards of Maine and Massachusetts sent far afield for white oak knees and pine planking. Southern forests were drawn upon, and even the stately pines of Puget Sound were felled to make masts for a Yankee ship.

CHAPTER II.

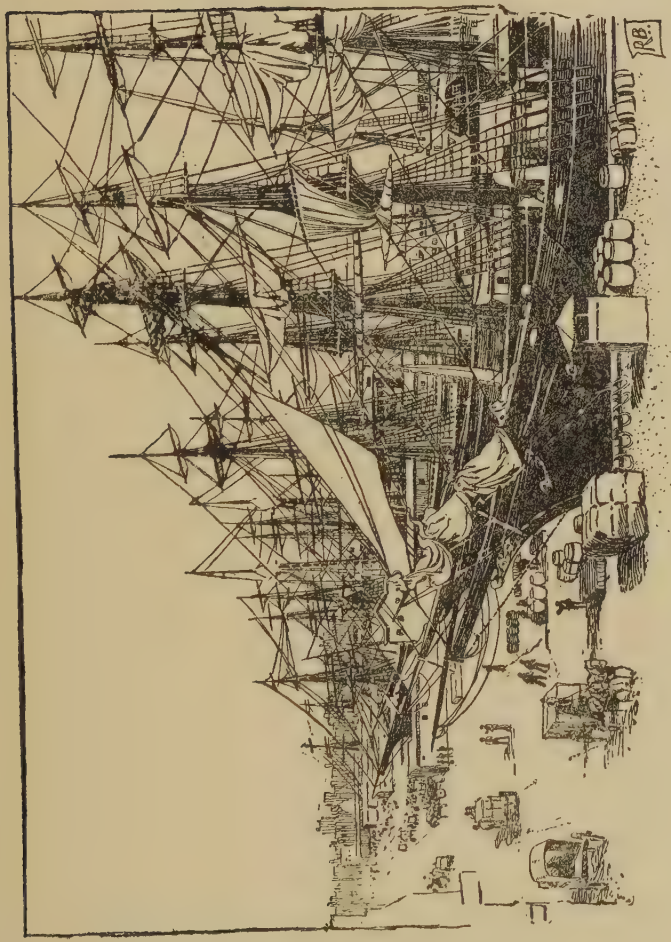
THE TRANSITION FROM SAILS TO STEAM — THE CHANGE IN MARINE ARCHITECTURE — THE DEPOPULATION OF THE OCEAN — CHANGES IN THE SAILOR'S LOT — FROM WOOD TO STEEL — THE INVENTION OF THE STEAMBOAT — THE FATE OF FITCH — FULTON'S LONG STRUGGLES — OPPOSITION OF THE SCIENTISTS — THE "CLERMONT" — THE STEAMBOAT ON THE OCEAN — ON WESTERN RIVERS — THE TRANSATLANTIC PASSAGE — THE "SAVANNAH" MAKES THE FIRST CROSSING — ESTABLISHMENT OF BRITISH LINES — EFFORTS OF UNITED STATES SHIP-OWNERS TO COMPETE—THE FAMOUS COLLINS LINE—THE CLIPPERS—STEAM WINS—GOLD AND THE PANAMA ROUTE—THE COST OF THE WAR—THE DECLINE OF OUR SHIPPING.

EVEN as recently as thirty years ago, the water front of a great seaport like New York, viewed from the harbor, showed a towering forest of tall and tapering masts, reaching high up above the roofs of the water-side buildings, crossed with slender spars hung with snowy canvas, and braced with a web of taut cordage. Across the street that passed the foot of the slips, reached out the great bowsprits or jibbooms, springing from fine-drawn bows where, above a keen cut-water, the figurehead—pride of the ship—nestled in confident strength. Neptune with his trident, Venus rising from the sea, admirals of every age and nationality, favorite heroes like Wellington and Andrew Jackson were carved, with varying skill, from stout oak, and set up to guide their vessels through tumultuous seas.

To-day, alas, the towering masts, the trim yards, the web of cordage, the quaint figureheads, are gone or going fast. The docks, once so populous, seem deserted—not

because maritime trade has fallen off, but because one steamship does the work that twenty stout clippers once were needed for. The clipper bow with figurehead and reaching jib-boom are gone, for the modern steamship has its bow bluff, its stem perpendicular, the "City of Rome" being the last great steamship to adhere to the old model. It is not improbable, however, that in this respect we shall see a return to old models, for the straight stem—an American invention, by the way—is held to be more dangerous in case of collisions. Many of the old-time sailing ships have been shorn of their towering masts, robbed of their canvas, and made into ignoble barges which, loaded with coal, are towed along by some fuming, fussing tugboat—as Samson shorn of his locks was made to bear the burdens of the Philistines. This transformation from sail to steam has robbed the ocean of much of its picturesqueness, and seafaring life of much of its charm, as well as of many of its dangers.

The greater size of vessels and their swifter trips under steam, have had the effect of depopulating the ocean, even in established trade routes. In the old days of ocean travel the meeting of a ship at sea was an event long to be remembered. The faint speck on the horizon, discernible only through the captain's glass, was hours in taking on the form of a ship. If a full-rigged ship, no handiwork of man could equal her impressiveness as she bore down before the wind, sail mounting on sail of billowing whiteness, until for the small hull cleaving the waves so swiftly, to carry all seemed nothing sort of marvelous. Always there was a hail and an interchange of names and ports; sometimes both vessels rounded to and boats passed and repassed. But now the courtesies of the sea have gone with its picturesqueness. Great ocean liners rushing through the deep, give each other as little



"THE WATER FRONT OF A GREAT SEAPORT LIKE NEW YORK"

heed as railway trains passing on parallel tracks. A twinkle of electric signals, or a fluttering of parti-colored flags, and each seeks its own horizon—the incident bounded by minutes where once it would have taken hours.

It would not be easy to say whether the sailor's lot has been lightened or not, by the substitution of steel for wood, of steam for sail. Perhaps the best evidence that the native-born American does not regard the change as wholly a blessing, is to be found in the fact that but few of them now follow the sea, and scarcely a vestige is left of the old New England seafaring population except in the fisheries—where sails are still the rule. Doubtless the explanation of this lies in the changed conditions of seafaring as a business. In the days which I have sketched in the first chapter, the boy of good habits and reasonable education who shipped before the mast, was fairly sure of prompt promotion to the quarter-deck, of a right to share in the profits of the voyage, and of finally owning his own ship. After 1860 all these conditions changed. Steamships, always costly to build, involved greater and greater investments as their size increased. Early in the history of steam navigation they became exclusively the property of corporations. Latterly the steamship lines have become adjuncts to great railway lines, and are conducted by the practiced stock manipulator—not by the veteran sea captain.

Richard J. Cleveland, a successful merchant navigator of the early days of the nineteenth century, when little more than a lad, undertook an enterprise, thus described by him in a letter from Havre:

"I have purchased a cutter-sloop of forty-three tons burden, on a credit of two years. This vessel was built at Dieppe and fitted out for a privateer; was taken by the English, and has

been plying between Dover and Calais as a packet-boat. She has excellent accommodations and sails fast. I shall copper her, put her in ballast, trim with £1000 or £1500 sterling in cargo, and proceed to the Isle of France and Bourbon, where I expect to sell her, as well as the cargo, at a very handsome profit, and

AN ARMED CUTTER

have no doubt of being well paid for my twelve months' work, calculating to be with you next August."

In such enterprises the young American sailors were always engaging—braving equally the perils of the deep

and not less treacherous reefs and shoals of business, but always struggling to become their own masters, to command their own ships, and if possible, to carry their own cargoes. The youth of a nation that had fought for political independence, fought themselves for economic independence.

To men of this sort the conditions bred by the steam-carrying trade were intolerable. To-day a great steamship may well cost $2,000,000. It must have the favor of railway companies for cargoes, must possess expensive wharves at each end of its route, must have an army of agents and solicitors ever engaged upon its business. The boy who ships before the mast on one of them, is less likely to rise to the position of owner, than the switchman is to become railroad president—the latter progress has been known, but of the former I can not find a trace. So comparatively few young Americans choose the sea for their workshop in this day of steam.

If this book were the story of the merchant marine of all lands and all peoples, a chapter on the development of the steamship would be, perhaps, the most important, and certainly the most considerable part of it. But with the adoption of steam for ocean carriage began the decline of American shipping, a decline hastened by the use of iron, and then steel, for hulls. Though we credit ourselves—not without some protest from England—with the invention of the steamboat, the adaptation of the screw to the propulsion of vessels, and the invention of triple-expansion engines, yet it was England that seized upon these inventions and with them won, and long held, the commercial mastery of the seas. To-day (1919) it seems that economic conditions have so changed that the shipyards of the United States will again compete for the business of the world. We are building ships as good—perhaps

better—than can be constructed anywhere else, but thus far we have not been able to build them as cheap. Accordingly our builders have been restricted to the construction of warships, coasters, and yachts. National pride has naturally demanded that all vessels for the navy be built in American shipyards, and a federal law has long restricted the trade between ports of the United States to ships built here. The lake shipping, too—prodigious in numbers and activity—is purely American. But until within a few years the American flag had almost disappeared from vessels engaged in international trade. Americans in many instances are the owners of ships flying the British flag, for the United States laws deny American registry—which is to a ship what citizenship is to a man—to vessels built abroad. While the result of this attempt to protect American shipyards has been to drive our flag from the ocean, there are indications now that our shipyards are prepared to build as cheaply as others, and that the flag will again figure on the high seas.

Popular history has ascribed to Robert Fulton the honor of building and navigating the first steamboat. Like claims to priority in many other inventions, this one is strenuously contested. Two years before Fulton's "Clermont" appeared on the Hudson, John Stevens, of Hoboken, built a steamboat propelled by a screw, the model of which is still in the Stevens Polytechnic Institute. Earlier still, John Fitch, of Pennsylvania, had made a steamboat, and urged it upon Franklin, upon Washington, and upon the American Philosophical Society without success; tried it then with the Spanish minister, and was offered a subsidy by the King of Spain for the exclusive right to the invention. Being a patriotic American, Fitch refused. "My invention must be first for my own country and then for all the world," said he. But

later, after failing to reap any profit from his discovery, and finding himself deprived even of the honor of first invention, he wrote bitterly in 1792:

"The strange ideas I had at that time of serving my country, without the least suspicion that my only reward would be contempt and opprobrious names! To refuse the offer of the Spanish nation was the act of a blockhead, of which I should not be guilty again."

Indeed Fitch's fortune was hard. His invention was a work of the purest originality. He was unread, uneducated, and had never so much as heard of a steam-engine when the idea of propelling boats by steam came to him. After repeated rebuffs—the lot of every inventor—he at length secured from the State of New Jersey the right to navigate its waters for a term of years. With this a stock company was formed and the first boat built and rebuilt. At first it was propelled by a single paddle at the stem; then by a series of paddles attached to an endless chain on each side of the boat; afterwards by paddle-wheels, and finally by upright oars at the side. The first test made on the Delaware River in August, 1787—twenty years before Fulton—in the presence of many distinguished citizens, some of them members of the Federal Convention, which had adjourned for the purpose, was completely successful. The boiler burst before the afternoon was over, but not before the inventor had demonstrated the complete practicability of his invention.

For ten years, struggling the while against cruel poverty, John Fitch labored to perfect his steamboat, and to force it upon the public favor, but in vain. Never in the history of invention did a new device more fully meet the traditional "long-felt want." Here was a growing nation made up of a fringe of colonies strung along an extended coast. No roads were built. Dense forests blocked the

way inland, but were pierced by navigable streams, deep bays, and placid sounds. The steamboat was the one thing necessary to cement American unity and speed American progress; but a full quarter of a century passed after Fitch had steamed up and down the Delaware before the new system of propulsion became commercially useful. The inventor did not live to see that day, and was at least spared the pain of seeing a later pioneer get credit for a discovery he thought his own. In 1798 he died—of an overdose of morphine—leaving behind the bitter writing: "The day will come when some powerful man will get fame and riches from my invention; but nobody will ever believe that poor John Fitch can do anything worthy of attention."

In trying to make amends for the long injustice done to poor Fitch, modern history has come near to going beyond justice. It is undoubted that Fitch applied steam to the propulsion of a boat, long before Fulton, but that Fitch himself was the first inventor is not so certain. Blasco de Garay built a rude steamboat in Barcelona in 1543; in Germany one Papin built one a few years later, which bargemen destroyed lest their business be injured by it. Jonathan Hulls, of Liverpool, in 1737 built a stern-wheeler, rude engravings of which are still in existence, and Symington in 1801 built a thoroughly practical steamboat at Dundee. 'Tis a vexed question, and perhaps it is well enough to say that Fitch first scented the commercial possibilities of steam navigation, while Fulton actually developed them—the one "raised" the fox, while the other was in at the death.

To trace a great idea to the actual birth is apt to be destructive to national pride. It is even said that the Chinese of centuries ago understood the value of the

screw-propeller—for inventing which our adoptive citizen Ericsson stands in bronze on New York's Battery.

From the time of Robert Fulton, at any rate, dates the commercial usage of the steamboat. Others had done the pioneering—Fitch on the Delaware, James Rumsey on the Potomac, William Longstreet on the Savannah, Elijah Ormsley on the waters of Rhode Island, while Samuel Morey had actually traveled by steamboat from New Haven to New York. Fulton's craft was not materially better than any of these, but it happened to be launched on

> ——that tide in the affairs of men
> Which, taken at the flood, leads on to fortune.

But the flood of that tide did not come to Fulton without long waiting and painstaking preparation. He was the son of an Irish immigrant, and born in Pennsylvania in 1765. To inventive genius he added rather unusual gifts for drawing and painting; for a time followed the calling of a painter of miniatures and went to London to study under Benjamin West, whom all America of that day thought a genius scarcely second to Raphael or Titian. He was not, like poor Fitch, doomed to the narrowest poverty and shut out from the society of the men of light and learning of the day, for we find him, after his London experience, a member of the family of Joel Barlow, then our minister to France. By this time his ambition had forsaken art for mechanics, and he was deep in plans for diving boats, submarine torpedoes, and steamboats. Through various channels he succeeded in getting his plan for moving vessels with steam, before Napoleon —then First Consul—who ordered the Minister of Marine to treat with the inventor. The Minister in due time suggested that 10,000 francs be spent on experiments to be made in the Harbor of Brest. To this Napoleon assented,

and sent Fulton to the Institute of France to be examined as to his fitness to conduct the tests. Now the Institute is the most learned body in all France. In 1860 one of its members wrote a book to prove that the earth does not revolve upon its axis, nor move about the sun. In 1878, when Edison's phonograph was being exhibited to the eminent scientists of the Institute, one rushed wrathfully down the aisle and seizing by the collar the man who manipulated the instrument, cried out, "Wretch, we are not to be made dupes of by a ventriloquist!" So it is readily understandable that after being referred to the Institute, Fulton and his project disappeared for a long time.

The learned men of the Institute of France were not alone in their incredulity. In 1803 the Philosophical Society of Rotterdam wrote to the American Philosophical Society of Philadelphia, for information concerning the development of the steam-engine in the United States. The question was referred to Benjamin H. Latrobe, the most eminent engineer in America, and his report was published approvingly in the *Transactions*. "A sort of mania," wrote Mr. Latrobe, "had indeed prevailed and not yet entirely subsided, for impelling boats by steam-engines." But his scientific hearers would at once see that there were general objections to it which could not be overcome. "These are, first, the weight of the engine and of the fuel; second, the large space it occupies; third, the tendency of its action to rack the vessel and render it leaky; fourth, the expense of maintenance; fifth, the irregularity of its motion and the motion of the water in the boiler and cistern, and of the fuel vessel in rough weather; sixth, the difficulty arising from the liability of the paddles, or oars, to break, if light, and from the weight if made strong."

But the steamboat survived this scientific indictment in six counts. Visions proved more real than scientific reasoning.

While in the shadow of the Institute's disfavor, Fulton fell in with the new minister to France, Robert R. Livingston, and the result of this acquaintance was that America gained primacy in steam navigation, and Napoleon lost the chance to get control of an invention which, by revolutionizing navigation, might have broken that British control of the sea, that in the end destroyed the Napoleonic empire. Livingston had long taken an intelligent interest in the possibilities of steam power, and had built and tested, on the Hudson, an experimental steamboat of his own. Perhaps it was this, as much as anything, which aroused the interest of Thomas Jefferson—to whom he owed his appointment as minister to France—for Jefferson was actively interested in every sort of mechanical device, and his mind was not so scientific as to be inhospitable to new, and even, revolutionary, ideas. But Livingston was not possessed by that idea which, in later years, politicians have desired us to believe especially Jeffersonian. He was no foe to monopoly. Indeed, before he had perfected his steamboat, he used his political influence to get from New York the concession of the *exclusive* right to navigate her lakes and rivers by steam. The grant was only to be effective if within one year he should produce a boat of twenty tons, moved by steam. But he failed, and in 1801 went to France, where he found Fulton. A partnership was formed, and it was largely through Livingston's money and influence that Fulton succeeded where others, earlier in the field than he, had failed. Yet even so, it was not all easy sailing for him. "When I was building my first steamboat," he said, "the project was viewed by the public either with indifference,

or with contempt as a visionary scheme. My friends, indeed, were civil, but were shy. They listened with patience to my explanations, but with a settled cast of incredulity upon their countenances. I felt the full force of the lamentation of the poet—

> Truths would you teach, or save a sinking land;
> All fear, none aid you, and few understand.

"THE LOUD LAUGH OFTEN ROSE AT MY EXPENSE"

"As I had occasion to pass daily to and from the building yard while my boat was in progress, I have often loitered unknown near the idle groups of strangers gathered in little circles and heard various inquiries as to the object of this new vehicle. The language was uniformly that of scorn, or sneer, or ridicule. The loud laugh often rose at my expense; the dry jest; the wise calculation of

losses and expenditures; the dull, but endless repetition of 'the Fulton Folly.' Never did a single encouraging remark, a bright hope, or a warm wish cross my path."

The boat which Fulton was building while the wiseacres wagged their heads and prophesied disaster, was named "The Clermont." She was 130 feet long, 18 feet wide, half-decked, and provided with a mast and sail. In the undecked part were the boiler and engine, set in masonry. The wheels were fifteen feet in diameter, with buckets four feet wide, dipping two feet into the water.

It was 1806 when Fulton came home to begin her construction. Since his luckless experience with the French Institute he had tested a steamer on the Seine; failed to interest Napoleon; tried, without success, to get the British Government to adopt his torpedo; tried and failed again with the American Government at Washington. Fulton's thoughts seemed to have been riveted on his torpedo; but Livingston was confident of the future of the steamboat, and had had an engine built for it in England, which Fulton found lying on a wharf, freight unpaid, on his return from Europe. The State of New York had meantime granted the two another monopoly of steam navigation, and gave them until 1807 to prove their ability and right. The time, though brief, proved sufficient, and on the afternoon of August 7, 1807, the "Clermont" began her epoch-making voyage. The distance to Albany—150 miles—she traversed in thirty-two hours, and the end of the passenger sloop traffic on the Hudson was begun. Within a year steamboats were plying on the Raritan, the Delaware, and Lake Champlain, and the development and use of the new invention would have been more rapid than it was, save for the monopoly rights which had been granted to Livingston and Fulton. They had the sole right to navigate by steam, the waters

of New York. Well and good. But suppose the stream navigated touched both New York and New Jersey. What then? Would it be seriously asserted that a steamer owned by New Jersey citizens could not land passengers at a New York port?

Fulton and Livingston strove to protect their monopoly, and the two States were brought to the brink of war. In the end the courts settled the difficulty by establishing the exclusive control of navigable waters by the Federal Government.

From the day the "Clermont" breasted the tide of the Hudson there was no check in the conquest of the waters by steam. Up the narrowest rivers, across the most tempestuous bays, along the placid waters of Long Island Sound, coasting along the front yard of the nation from Portland to Savannah the steamboats made their way, tying the young nation indissolubly together. Curiously enough it was Livingston's monopoly that gave the first impetus to the extension of steam navigation. A mechanic by the name of Robert L. Stevens, one of the first of a family distinguished in New York and New Jersey, built a steamboat on the Hudson. After one or two trips had proved its usefulness, the possessors of the monopoly became alarmed and began proceedings against the new rival. Driven from the waters about New York, Stevens took his boat around to Philadelphia. Thus not only did he open an entirely new field of river and inland water transportation, but the trip to Philadelphia demonstrated the entire practicability of steam for use in coastwise navigation. Thereafter the vessels multiplied rapidly on all American waters. Fulton himself set up a shipyard, in which he built steam ferries, river and coastwise steamboats. In 1809 he associated himself with Nicholas J. Roosevelt, to whom credit is due for the invention

of the vertical paddle-wheel, in a partnership for the purpose of putting steamboats on the great rivers of the Mississippi Valley, and in 1811 the "New Orleans" was built and navigated by Roosevelt himself, from Pittsburg to the city at the mouth of the Mississippi. The voyage took fourteen days, and before undertaking it, he descended the two rivers in a flatboat, to familiarize himself with the channel. The biographer of Roosevelt prints an interesting letter from Fulton, in which he says, "I have no pretensions to be the inventor of the steamboat. Hundreds of others have tried it and failed." Four years after Roosevelt's voyage, the "Enterprise" made for the first time in history the voyage up the Mississippi and Ohio Rivers from New Orleans to Louisville, and from that era the great rivers may be said to have been fairly opened to that commerce, which in time became the greatest agency in the building up of the nation. The Great Lakes were next to feel the quickening influence of the new motive power, but it was left for the Canadian, John Hamilton, of Queenston, to open this new field. The progress of steam navigation on both lakes and rivers will be more fully described in the chapters devoted to that topic.

So rapidly now did the use of the steamboat increase on Long Island Sound, on the rivers, and along the coast that the newspapers began to discuss gravely the question whether the supply of fuel would long hold out. The boats used wood exclusively—coal was then but little used—and despite the vast forests which covered the face of the land the price of wood in cities rose because of their demand. Mr. McMaster, the eminent historian, discovers that in 1825 thirteen steamers plying on the Hudson burned sixteen hundred cords of wood a week. Fourteen hundred cords more were used by New York

"THE DREADNAUGHT"—NEW YORK AND LIVERPOOL PACKET

ferry boats, and each trip of a Sound steamer consumed sixty cords. The American who traverses the placid waters of Long Island Sound to-day in one of the swift and splendid steamboats of the Fall River or other Sound lines, enjoys very different accommodations from those which in the second quarter of the last century were regarded as palatial. The luxury of that day was a simple sort at best. When competition became strong, the old Fulton company, then running boats to Albany, announced as a special attraction the "safety barge." This was a craft without either sails or steam, of about two hundred tons burden, and used exclusively for passengers. It boasted a spacious dining-room, ninety feet long, a deck cabin for ladies, a reading room, a promenade deck, shaded and provided with seats. One of the regular steamers of the line towed it to Albany, and its passengers were assured freedom from the noise and vibration of machinery, as well as safety from possible boiler explosions—the latter rather a common peril of steamboating in those days.

It was natural that the restless mind of the American, untrammeled by traditions and impatient of convention, should turn eagerly and early to the question of crossing the ocean by steam. When the rivers had been made busy highways for puffing steamboats; when the Great Lakes, as turbulent as the ocean, and as vast as the Mediterranean, were conquered by the new marine device; when steamships plied between New York, Philadelphia, Baltimore, Savannah, and Charleston, braving what is by far more perilous than mid-ocean, the danger of tempests on a lee shore, and the shifting sands of Hatteras, there seemed to the enterprising man no reason why the passage from New York to Liverpool might not be made by the same agency. The scientific authorities were all against it.

Curiously enough, the weight of scientific authority is always against anything new. Marine architects and mathematicians proved to their own satisfaction at least that no vessel could carry enough coal to cross the Atlantic, that the coal bunkers would have to be bigger than the vessel itself, in order to hold a sufficient supply for the furnaces. It is a matter of history that an eminent British scientist was engaged in delivering a lecture on this very subject in Liverpool when the "Savannah," the first steamship to cross the ocean, steamed into the harbor. It is fair, however, to add that the "Savannah's" success did not wholly destroy the contention of the opponents of steam navigation, for she made much of the passage under sail, being fitted only with what we would call now "auxiliary steam power.' This was in 1819, but so slow were the shipbuilders to progress beyond what had been done with the "Savannah," that in 1835 a highly respected British scientist said in tones of authority: "As to the project which was announced in the newspapers, of making the voyage from New York to Liverpool direct by steam, it was, he had no hesitation in saying, perfectly chimerical, and they might as well talk of making a voyage from New York or Liverpool to the moon." Nevertheless, in three years from that time transatlantic steam lines were in operation, and the doom of the grand old packets was sealed.

The American who will read history free from that national prejudice which is miscalled patriotism, can not fail to be impressed by the fact that, while as a nation we have led the world in the variety and audacity of our inventions, it is nearly always some other nation that most promptly and most thoroughly utilizes the genius of our inventors. Emphatically was this the case with the application of steam power to ocean steamships. Ameri-

cans showed the way, but Englishmen set out upon it and were traveling it regularly before another American vessel followed in the wake of the "Savannah." In 1838 two English steamships crossed the Atlantic to New York, the "Sirius" and the "Great Western." That was the beginning of that great fleet of British steamers which now plies up and down the Seven Seas and finds its poet laureate in Mr. Kipling. A very small beginning it was, too. The "Sirius" was of 700 tons burden and 320 horse-power; the "Great Western" was 212 feet long, with a tonnage of 1340 and engines of 400 horse-power. The "Sirius" brought seven passengers to New York, at a time when the sailing clippers were carrying from eight hundred to a thousand immigrants, and from twenty to forty cabin passengers. To those who accompanied the ship on her maiden voyage it must have seemed to justify the doubts expressed by the mathematicians concerning the practicability of designing a steamship which could carry enough coal to drive the engines all the way across the Atlantic, for the luckless "Sirius" exhausted her four hundred and fifty tons of coal before reaching Sandy Hook, and could not have made the historic passage up New York Bay under steam, except for the liberal use of spars and barrels of resin which she had in cargo. Her voyage from Cork had occupied eighteen and a half days. The "Great Western," which arrived at the same time, made the run from Queenstown in fifteen days. That two steamships should lie at anchor in New York Bay at the same time, was enough to stir the wonder and awaken the enthusiasm of the provincial New Yorkers of that day. The newspapers published editorials on the marvel, and the editor of *The Courier and Enquirer,* the chief maritime authority of the time, hazarded a prophecy in this cautious fashion:

"What may be the ultimate fate of this excitement—whether or not the expenses of equipment and fuel will admit of the employment of these vessels in the ordinary packet service—we cannot pretend to form an opinion; but of the entire feasibility of the passage of the Atlantic by steam, as far as regards safety, comfort, and dispatch, even in the roughest and most boisterous weather, the most skeptical must now cease to doubt."

Unfortunately for our national pride, the story of the development of the ocean steamship industry from this small beginning to its present prodigious proportions, is one in which we of the United States fill but a little space. We have, it is true, furnished the rich cargoes of grain, of cotton, and of cattle, that have made the ocean passage in one direction profitable for shipowners. We found homes for the millions of immigrants who crowded the "'tween decks" of steamers of every flag and impelled the companies to build bigger and bigger craft to carry the ever increasing throngs. And in these later days of luxury and wealth unparalleled, we have supplied the millionaires, whose demands for quarters afloat as gorgeous as a Fifth Avenue club have resulted in the building of floating palaces. America has supported the transatlantic lines, but almost every civilized people with a seacoast has outdone us in building the ships. For a time, indeed, it seemed that we should speedily overcome the lead that England immediately took in building steamships. Her entrance upon this industry was, as we have seen, in 1838. The United States took it up about ten years later. In 1847 the Ocean Steam Navigation Company was organized in this country and secured from the Government a contract to carry the mails between New York and Bremen. Two ships were built and regular trips made for a year or more; but when the Government contract expired and was not renewed, the venture

was abandoned. About the same time the owners of one of the most famous packet lines, the Black Ball, tried the experiment of supplementing their sailing service with a steamship, but it proved unprofitable. Shortly after the New York and Havre Steamship Company, with two vessels and a postal subsidy of $150,000, entered the field and continued operations with only moderate success until 1868.

The only really notable effort of Americans in the early days of steam navigation to get their share of transatlantic trade — indeed, I might almost say the most determined effort until the present time—was that made by the projectors of the Collins line, and it ended in disaster, in heavy financial loss, and in bitter sorrow.

E. K. Collins was a New York shipping merchant, the organizer and manager of one of the most famous of the old lines of sailing packets between that port and Liverpool—the Dramatic line, so called from the fact that its ships were named after popular actors of the day. Recognizing the fact that the sailing ship was fighting a losing fight against the new style of vessels, Mr. Collins interested a number of New York merchants in a distinctly American line of transatlantic ships. It was no easy task. Capital was not over plenty in the American city which now boasts itself the financial center of the world, while the opportunities for its investment in enterprises longer proved and less hazardous than steamships were numerous. But a Government mail subsidy of $858,000 annually promised a sound financial basis, and made the task of capitalization possible. It seems not unlikely that the vicissitudes of the line were largely the result of this subsidy, for one of its conditions was extremely onerous: namely, that the vessels making twenty-six voyages annually between New York and Liverpool, should always

make the passage in better time than the British Cunard line, which was then in its eighth year. However, the Collins line met the exaction bravely. Four vessels were built, the "Atlantic," "Pacific," "Arctic," and "Baltic," and the time of the fleet for the westward passage averaged eleven days, ten hours and twenty-one minutes, while the British ships averaged twelve days, nineteen hours and twenty-six minutes—a very substantial triumph for American naval architecture. The Collins liners, furthermore, were models of comfort and even of luxury for the times. They averaged a cost of $700,000 apiece, a good share of which went toward enhancing the comfort of passengers. To our English cousins these ships were at first as much of a curiosity as our vestibuled trains were a few years since. When the "Atlantic" first reached Liverpool in 1849, the townspeople by the thousand came down to the dock to examine a ship with a barber shop, fitted with the curious American barber chairs enabling the customer to recline while being shaved. The provision of a special deck-house for smokers, was another innovation, while the saloon, sixty-seven by twenty feet, the dining saloon sixty by twenty, the rich fittings of rosewood and satinwood, marble-topped tables, expensive upholstery, and stained-glass windows, decorated with patriotic designs, were for a long time the subject of admiring comment in the English press. Old voyagers who crossed in the halycon days of the Collins line and are still taking the "Atlantic ferry," agree in saying that the increase in actual comfort is not so great as might reasonably be expected. Much of the increased expenditures of the companies has gone into more gorgeous decoration, vastly more of course into pushing for greater speed; but even in the early days there was a lavish table, and before the days of the steamships the

packets offered such private accommodations in the way of roomy staterooms as can be excelled only by the "cabins de luxe" of the modern liner. Aside from the question of speed, however, it is probable that the two inventions which have added most to the passengers' comfort, are the electric light and artificial refrigeration.

The Collins line charged from thirty to forty dollars a ton for freight, a charge which all the modern improvements and the increase in the size of vessels, has not materially lessened. In six years, however, the corporation was practically bankrupt. The high speed required by the Government more than offset the generous subsidy, and misfortune seemed to pursue the ships. The "Arctic" came into collision with a French steamer in 1854, and went down with two hundred and twenty-two of the two hundred and sixty-eight people on board. The "Pacific" left Liverpool June 23, 1856, and was never more heard of. Shortly thereafter the subsidy was withdrawn, and the famous line went slowly down to oblivion.

The period during which the Collins line reached its highest development and began its decline saw the American merchant marine attain its greatest prosperity. Steam was beginning its conquest of the seas, but its first effect was to stimulate the builders of Yankee sailing ships to their most fruitful endeavors. Between 1846 and 1860 the deep-sea tonnage of the United States reached its apogee—and began its decline. During that period we rivalled British constructors in the size, speed and comfort of our steamships, and vastly outdid them in all the qualities of our sailing clippers. That the United States made so admirable a showing is, in view of the conditions, most remarkable. For our shipping industry, little encouraged by legislation, had to make its way against the pet interest of Great Britain which was

fostered by every imaginable governmental care. So long as ships were built of wood and driven by the currents of air the builders of the United States needed no protection. The magnificence of our forests, and the skill of our mechanics gave us an advantage hard to be overcome. But when building for European buyers our shipbuilders encountered obstacles. The great marine insurance company known as Lloyds, for example, was at all times eager to foster British as against American shipping. It applied to Yankee-built ships seeking registry tests that were either altogether arbitrary, or were more severe than those applied to British vessels of the same character. It had long been the practice of American shipbuilders to fasten their structures together with treenails or wooden pegs.. This system produced a ship that was at once sturdy and flexible, and examples of this method of construction plied the turbulent seas for almost a century without giving signs of structural weakness. But Lloyds condemned the treenail system. The British buyer of an American ship was forced to have her refastened with metal, unless she had been thus constructed by contract. Nevertheless Yankee shipyards did a big business with European orders. In 1854 the Crimean War brought such a demand for ships for England and France that our sales to these nations reached the gross amount of 60,000 tons, or three times as much as the year previous. Nowadays when a single great ship may be of 35,000 tons these figures do not seem so impressive as they did in the time when a gross tonnage of 1,000 was colossal for a ship.

In the endeavor to meet the competition of the steamships the New England yards turned out some masterpieces of ship construction. Not only the eager rivalry with the new steamships, but the sudden creation of an

entirely new maritime interest by the discovery of gold in California in 1849 led to the prodigious development of our shipping at this time.

There were two favorite routes then to the gold fields —for the path across the plains and through the precipitous defiles of the Rocky Mountains was too long, too arduous and too much beset by hostile Indians to be much employed by seekers after the golden treasure house.

One ocean route lay around Cape Horn, most perilous and tempestuous of ocean passages of the day. Many hardy mariners of that era have left records of the savagery of the seas off that bleak and iron-bound cape, and the story is told even more impressively by the wrecks that long lay bleaching amongst its boulders. Yet it was after all a main-travelled road in the middle of the Nineteenth Century. Around the cape itself, or through the shorter but even more precarious path of the straits of Magellan passed an endless series of stately sailing ships. Some of them made amazing records for speed on the voyage between Sandy Hook and the Golden Gate. The "Comet" is said to have accomplished it in 83 days, or an average of 210 miles a day. The "Flying Fish" did it three times with an average of 101 days to the trip. Most famous of the ships on the Cape Horn route was the "Sovereign of the Seas" referred to in an earlier chapter. She traded both to California and the Orient. On a voyage in 1851 she ran into a hurricane off Valparaiso, and in the gale everything above the lower mastheads was carried away. She was sailed by a brother of her builder, a type of the Yankee sailor of that day who could navigate his ship, rebuild her in case of need, sell her cargo, speculate with the proceeds and always bring home a snug profit to the owners. Crippled as she was the "Sovereign" was put under jury rig and

brought into San Francisco in 102 days from the day of leaving New York—one of the fastest trips on record. In the course of the return trip the ship made in one 24-hour period 362 miles, or 15 miles an hour—a speed which no steamship at that time was capable of eclipsing. In a later voyage to Liverpool this majestic sailing ship made 340 miles in one day, while the Cunard steamship "Canada" was making 200. The "Palestine" about the same time sailed from New York to Liverpool in 14 days, beating the Cunarder that sailed at the same hour.

Indeed, in the early days of steam navigation the graceful clippers, with a fair strong breeze could always pick up a steamer, and run past her with the ease with which an ocean greyhound to-day out-distances a lumbering tramp. But breezes were not always strong or fair. The sailing ship had reached its highest development and the steamship was in its infancy. The outcome of the rivalry was certain from the first.

The second route to the California gold fields was by way of the Isthmus of Panama. This narrow neck of land, since cut by a canal made possible by the statesmanship of Theodore Roosevelt and the executive genius of George W. Goethals, was then traversed by an almost endless procession of men making their way to the El Dorado with bright visions of fortune filling their minds or returning eastward, often disillusioned in mind and broken in spirit.

A line of steamers from New York to Colon on the Carribean coast, and from Panama north to San Francisco, known as the Pacific Mail, was subsidized by the United States Government to carry the mails and take care of the passenger traffic. This line had just been established when the discovery of gold was announced and the rush to California began. It leaped at once to

the heights of prosperity. The steamers from New York to Colon, touching at West Indian ports were already in operation, but the 1,058-ton steamship "California," a side-wheeler, 200 feet long, and carrying a full ship rig was the first ship to be put on the Pacific route, and reached Panama, via Cape Horn, in mid-winter of 1848. She had carried a fair passenger list from New York, but on arriving at Panama was overwhelmed by the rush of gold seekers who crowded the docks, and even pushed out into the bay in small boats hoping to be able to clamber aboard. She was quickly followed by the "Panama" and "Oregon," of about the same dimensions, while for the Atlantic coast route the "Georgia," "Illinois" and "Ohio" were built, of about 250 feet, and 2,300 tons each. The business they did was enormous. In ten years after its establishment the Pacific Mail had built 29 steamers of a gross registry of 38,000 tons, had carried 175,000 passengers to California and had brought back $200,000,000 in gold.

It is not my purpose to make of this book an argument for or against the system of encouraging maritime enterprise by means of subsidies. But as a matter of historical record it is apparent that the great fabric of the Pacific Mail would never have been erected save for the payments made by the Government for its carriage of the mails. It was asserted that these payments were insufficient to the end sought, and that but for the gold rush the line would not have sustained itself. That, however, is a matter of speculation. The historic fact is that the Government paid the line for a prolonged period from $275,000 to $290,000 a year for the mail service between New York and Colon, and from $308,000 to $348,000 for the same service on the Pacific.

This route was furthermore protected by the fact that

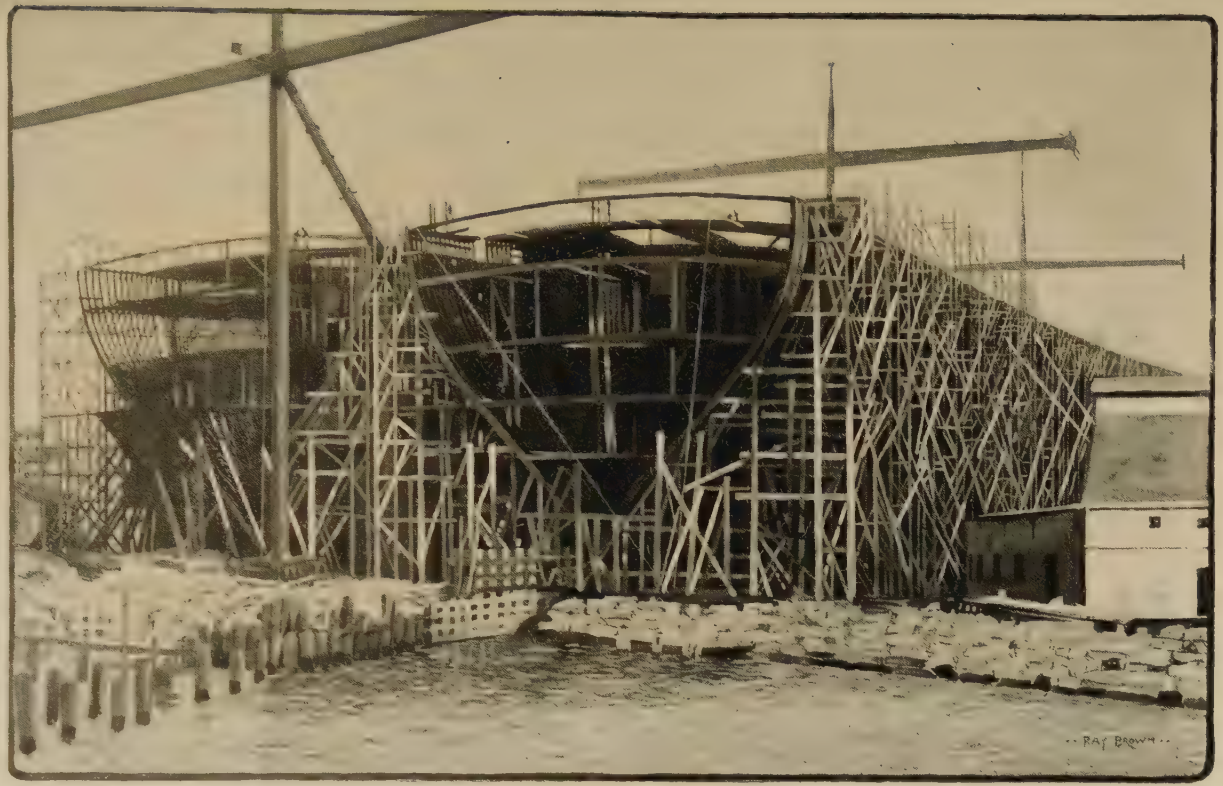
the voyage between New York and San Francisco was construed as coastwise traffic even though it was interrupted by a land passage through foreign territory at the Isthmus. The importance of this legal determination of the nature of the voyage lay in the fact that the United States statutes prohibit the participation of foreign-built ships in our coastwise traffic. Accordingly the Pacific Mail had a complete monopoly of steam navigation between New York and California, while to American sailing ships alone came all the tremendous overflow traffic of gold seekers that the steamships were unable to care for.

This overflow was enormous. The men seeking to get to the gold fields were adventurous spirits, impatient of delay and ready to spend money liberally in the effort to be early in the race to the land where gold, as they thought, was to be picked up in nuggets. The shipyards of New England and New York were crowded with the slim, graceful hulls of ships building for the Isthmian trade. Donald McKay and William H. Webb, whose school for shipbuilders stands to-day on the Harlem River, were the great maritime builders of the day. Webb launched in all 150 vessels. McKay had ships on every one of the Seven Seas, for he was an owner as well as a builder. In 1855—the banner year of American shipbuilding—381 ships and barks, and 126 brigs were built for deep-sea trade. We were building, too, for other nations than our own for in that year, 65,887 tons of American ships were sold to foreign buyers. No such volume of sales was recorded again until the days of the Civil War, when the ravages of the Confederate privateers compelled American ship owners to lay up their ships, or sell them to owners enjoying the protection of the British flag.

It is customary to ascribe the disappearance of the American flag from the high seas to the malign activities of the Confederate cruiser "Alabama" and her colleagues. But their depredations were only a contributing cause. The gradual reduction of the proportion of the world's carrying trade held by the United States, the falling off in the numbers of our ships began to be apparent as early as 1856, and our loss of primacy among maritime nations soon followed. In 1855 our yards constructed 583,450 tons of shipping, in 1859 it had fallen to 156,600. In 1846 we carried 81.7 per cent. of our imports and exports in our own ships. In 1860 it had fallen to 66.5. The Confederate cruisers did their sinister work after that date.

A very material change in the policy of the nation in relation to the encouragement of shipping took place during this period of decadence. While it may not have been the full reason for the downfall of our merchant marine it cannot but have contributed to that result. The question of the propriety of granting direct subsidies from the United States territory for the encouragement of private owners of American ships has been hotly debated for three-quarters of a century—ever since steam was applied to ocean navigation. So long as wooden ships and sails ruled the ocean there was no question of subsidy. None could compete with us in building or manning ships of that character. But steam brought a new problem, and one that was rendered enormously more difficult when iron began to take the place of wood as shipbuilding material.

Great Britain set the first example of shipping subsidies when in 1834, prior to establishing transatlantic steamship lines, she started short steam sea routes to Rotterdam and to Gibraltar. Both had government aid; the former $85,000, the latter $150,000 per year. These



THERE ARE BUILDING IN AMERICAN YARDS.

services being successful the transatlantic route came in for attention. Two ships were built, the "Sirius" and the "Great Britain." Passages averaged sixteen days. The vessels were wooden, side-wheelers. Shortly thereafter the British government awarded to Samuel Cunard and his associates a mail contract for $425,000 a year. This was the beginning of the famous Cunard Line, and the sums paid it for mail were steadily increased as the fleet grew and the need for closer relations between the two continents developed. The United States made its first essay in subsidies five years later when a mail contract for $200,000 a year was given to the Ocean Steamship Company which was to maintain a line between New York and ports in continental Europe. Then followed the subsidies to the Pacific Mail, and to the Collins Line, of which some account has already been given. The ships of the latter line were faster and sturdier than those of the Cunard Line, and yet by a cruel mischance of fate two of the best Collins ships, the "Arctic" and the "Pacific," were lost with heavy loss of life while the Cunard Line was able to boast up to the time of the Great War that it had never lost a passenger.

American subsidies on account of mails were always less than those paid by the British Government, and the advocates of subsidies have usually ascribed the decadence of the American marine to this fact. It is worth noting, however, that subsidies were never paid to sailing lines, and that so long as sails and wooden hulls made up the ocean-going fleet the United States more than held her own. Nor did her shipping merchants while these conditions lasted have to meet artificially stimulated competition, for while Great Britain protected her sailing commerce in various ways subsidies with her as with us began with the introduction of steam.

It would seem that Great Britain might have built up even her great maritime supremency under steam without artificial stimulus. For though to an American was due the first practical application of the steam engine to ship propulsion, England was far ahead of us in the design and manufacture of engines when deep-sea steam navigation was inaugurated. Nevertheless in the year 1849-50 we increased our steam fleet 113 per cent., and compelled the Cunard Line to build new ships to compete with ours. At that time the profession of seafaring ranked high among the occupations of American men. College bred men took to the sea with the certainty of attaining a captain's rank, and the position of part owners. They had not only their comfortable salaries and quarters that were capacious, and often even luxurious, but they were allowed a percentage on freights, the privilege of trading on their own account, and other opportunities for profit. An historian of the British marine who had no reason to be over complimentary to the seamen of the United States wrote:

"During the first half of this century the masters of American vessels were, as a rule, greatly superior to those who held similar positions in English ships, arising in some measure from the limited education of the latter, which was not sufficient to qualify them for the higher grades of the merchant service. American ship owners required of their masters not merely a knowledge of navigation and seamanship, but of commercial pursuits, the nature of exchange and art of correspondence, and a sufficient knowledge of business to qualify them to represent the interests of their employers to advantage with merchants abroad."

The same writer quotes the British consul at Philadelphia as saying:

"A lad intended for the higher grades of the merchant service in this country, after having been at school some years, and acquired (in addition to the ordinary branches of school learning) a complete knowledge of mathematics, navigation, ships-husbandry, and perhaps French, is perhaps apprenticed to some respectable merchant in whose counting house he remains two or three years, or at least until he becomes familiar with exchanges and such other matters as may qualify him to represent his principal in foreign countries. He is then sent to sea, generally in the capacity of second mate, from which he gradually rises to that of captain."

In 1861 the calamity of the Civil War fell upon the nation. The sectional antagonisms which culminated in it had long controlled the action of Congress, and shipbuilding and the merchant marine which were almost wholly New England and New York enterprises were deprived of all governmental protection. We no longer possessed any transatlantic liners, and the number of ships built for foreign trade had, in 1860, sunk to less than a third of those built in 1855. When war came its menace hastened the process of destruction already far advanced. It was at once recognized that the Confederacy, being wholly without a navy, could only prosecute a war upon the sea by means of privateers and commerce destroyers. Practically the whole of our merchant fleet was of northern ownership and was, under the laws of war then, and now obtaining, fair game for the Confederate cruisers. Ship owners, therefore, hastened to lay up their vessels in port or to sell them abroad that they might have the protection of a neutral flag. At "war panic prices" during the years 1861-65 there were sold to foreign buyers 751,595 tons of deep-sea shipping, or about one-third of our fleet engaged in foreign trade.

The Confederate cruisers sunk about 110,000 more. When 1866 came in we had but 1,387,756 tons afloat, and were carrying about 25.1 per cent. of our exports and imports as compared with 72.1 per cent. when the war began.*

Natural causes coöperated with the ravages of war to cripple the American merchant marine at this time. Steam had fairly established its place as the controlling motive power in ocean navigation. England was better equipped for the building of engines, and vastly more experienced in that work. Moreover, iron had supplanted wood as a material for ships, to be in its turn supplanted by steel. At this period of our industrial development we lagged far behind England in working in metals. Though the first iron ship built in this country, the "Bangor," had been built at Wilmington, Del., in 1843 that industry had made no progress. England had already made notable progress in building iron ships, and even in 1860 thirty per cent. of her merchant ships were built of that metal, while America was building practically none.

American wages had always been higher than those in foreign countries, a fact which placed an added burden on the American shipbuilder in competition with foreign yards. American sailors demanded and received higher pay. This fact has been an increasing factor in the problem of maintaining an American merchant marine in competition with the world, and was never a more serious factor than it is to-day (1919). At the close of the Civil War, not only were wages in this country higher than ever before, but new opportunities were opened for both labor and capital, diverting both from maritime en-

* A full account of the work of the Confederate cruisers will be found in "The Story of Our Navy," by Willis J. Abbot.

terprise which had so long engaged American attention. Railroads were becoming the greatest of all national interests. The development of the Great West afforded to hardy and pioneering spirits opportunities much like those that the opening of the world to American trade had presented a few decades earlier. New Englanders who would have devoted their brains and their capital to the establishment of packet lines turned to building railroads, and adventurous youth, who, in the first half of the Nineteenth Century, would have looked upon the quarter-deck of a ship as the goal of their ambition, now went west to grow up with the country and become its governors and senators.

In the very general regret over the decline and practical obliteration of the American merchant marine there is a tendency to overlook the fact that the ability, enterprise and energy withdrawn from maritime adventure was devoted to the more vital undertaking of developing our vast interior domain. Perhaps in the end the diversion of energy to interior development may have been the more advantageous to the United States.

Moreover in comparing our deep-sea merchant marine with that of foreign nations we must bear in mind the fact that all their maritime commerce is necessarily coasting or foreign. No other nation has a commerce upon interior lakes remotely approaching ours. None has such a record of prosperous river traffic as that which attended upon the development of the interior of the United States. It is true that the story of our river shipping, like that of our shipping in foreign trade, has been of late a story of dismal decay. That has been due to conditions fully set forth in Chapter VIII of this volume. But the rivers, great free highways open to all, are still there and hope is general among thinking people that the wisdom of

utilizing them at least for barge traffic, as in Germany and France, will yet be realized. As for the Great Lakes, the volume of traffic upon them is America's greatest achievement in the field of water transportation and will be fully described in a later chapter.

CHAPTER III

An Ugly Feature of Early Seafaring — The Slave Trade and Its Promoters — Part Played by Eminent New Englanders — How the Trade Grew Up — The Pious Auspices Which Surrounded the Traffic — Slave-Stealing and Sabbath-Breaking — Conditions of the Trade — Size of the Vessels — How the Captives Were Treated — Mutinies, Man-Stealing, and Murder — The Revelations of the Abolition Society — Efforts to Break Up the Trade — An Awful Retribution — England Leads the Way — Difficulty of Enforcing the Law — America's Shame — The End of the Evil — The Last Slaver.

AT the foot of Narragansett Bay, with the surges of the open ocean breaking fiercely on its eastward side, and a sheltered harbor crowded with trim pleasure craft, leading up to its rotting wharves, lies the old colonial town of Newport. A holiday place it is to-day, a spot of splendor and of wealth almost without parallel in the world. From the rugged cliffs on its seaward side great granite palaces stare, many-windowed, over the Atlantic, and velvet lawns slope down to the rocks. These are the homes of the people who, in the last fifty years, have brought new life and new riches to Newport. But down in the old town you will occasionally come across a fine old colonial mansion, still retaining some signs of its former grandeur, while scattered about the island to the north are stately old farmhouses and homesteads that show clearly enough the existence in that quiet spot of wealth and comfort for these one hundred and fifty years.

Looking upon Newport to-day, and finding it all so fair, it seems hard to believe that the foundation of all its wealth and prosperity rested upon the most cruel, the most execrable, the most inhuman traffic that ever was plied by degraded men—the traffic in slaves. Yet in the old days the trade was far from being held either cruel or inhuman—indeed, vessels often set sail for the Bight of Benin to swap rum for slaves, after their owners had invoked the blessing of God upon their enterprise. Nor were its promoters held by the community to be degraded. Indeed, some of the most eminent men in the community engaged in it, and its receipts were so considerable that as early as 1729 one-half of the impost levied on slaves imported into the colony was appropriated to pave the streets of the town and build its bridges—however, we are not informed that the streets were very well paved.

It was not at Newport, however, nor even in New England that the importation of slaves first began, though for reasons which I will presently show, the bulk of the traffic in them fell ultimately to New Englanders. The first African slaves in America were landed by a Dutch vessel at Jamestown, Virginia, in 1619. The last kidnapped Africans were brought here probably some time in the latter part of 1860—for though the traffic was prohibited in 1807, the rigorous blockade of the ports of the Confederacy during the Civil War was necessary to bring it actually to an end. The amount of human misery which that frightful traffic entailed during those 240 years almost baffles the imagination. The bloody Civil War which had, perhaps, its earliest cause in the landing of those twenty blacks at Jamestown, was scarcely more than a fitting penalty, and there was justice in the fact that it fell on North and South alike, for if the South clung longest to slavery, it was the North—even abolition

New England—which had most to do with establishing it on this continent.

However, it is not with slavery, but with the slave trade we have to do. Circumstances largely forced upon the New England colonies their unsavory preeminence in this sort of commerce. To begin with, their people were, as we have already seen, distinctively the seafaring folk of North America. Again, one of their earliest methods of earning a livelihood was in the fisheries, and that, curiously enough, led directly to the trade in slaves. To sell the great quantities of fish they dragged up from the Banks or nearer home, foreign markets must needs be found. England and the European countries took but little of this sort of provender, and moreover England, France, Holland, and Portugal had their own fishing fleets on the Banks. The main markets for the New Englanders then were the West India Islands, the Canaries, and Madeira. There the people were accustomed to a fish diet and, indeed, were encouraged in it by the frequent fastdays of the Roman Catholic church, of which most were devout members. A voyage to the Canaries with fish was commonly prolonged to the west coast of Africa, where slaves were bought with rum. Thence the vessel would proceed to the West Indies where the slaves would be sold, a large part of the purchase price being taken in molasses, which, in its turn, was distilled into rum at home, to be used for buying more slaves—for in this traffic little of actual worth was paid for the hapless captives. Fiery rum, usually adulterated and more than ever poisonous, was all the African chiefs received for their droves of human cattle. For it they sold wives and children, made bloody war and sold their captives, kidnapped and sold their human booty.

Nothing in the history of our people shows so strik-

ingly the progress of man toward higher ideals, toward a clearer sense of the duties of humanity and the rightful relation of the strong toward the weak, than the changed sentiment concerning the slave trade. In its most humane form the thought of that traffic to-day fills us with horror. The stories of its worst phases seem almost incredible, and we wonder that men of American blood could have been such utter brutes. But two centuries ago the foremost men of New England engaged in the trade or profited by its fruits. Peter Fanueil, who built for Boston that historic hall which we call the Cradle of Liberty, and which in later years resounded with the anti-slavery eloquence of Garrison and Phillips, was a slave owner and an actual participant in the trade. The most "respectable" merchants of Providence and Newport were active slavers—just as some of the most respectable merchants and manufacturers of to-day make merchandise of white men, women, and children, whose slavery is none the less slavery because they are driven by the fear of starvation instead of the overseer's lash. Perhaps two hundred years from now our descendants will see the criminality of our industrial system to-day, as clearly as we see the wrong in that of our forefathers. The utmost piety was observed in setting out a slave-buying expedition. The commissions were issued "by the Grace of God," divine guidance was implored for the captain who was to swap fiery rum for stolen children, and prayers were not infrequently offered for long delayed or missing slavers. George Dowing, a Massachusetts clergyman, wrote of slavery in Barbadoes: "I believe they have bought this year no less than a thousand negroes, and the more they buie, the better able they are to buie, for in a year and a half they will earne *with God's blessing,* as much as they cost." Most of the slaves brought from

the coast of Guinea in New England vessels were deported again—sent to the southern States or to the West Indies for a market. The climate and the industrial conditions of New England were alike unfavorable to the growth there of slavery, and its ports served chiefly as clearing-houses for the trade. Yet there was not even among the most enlightened and leading people of the colony any moral sentiment against slavery, and from Boston to New York slaves were held in small numbers and their prices quoted in the shipping lists and newspapers like any other merchandise. Curiously enough, the first African slaves brought to Boston were sent home again and their captors prosecuted—not wholly for stealing men, but for breaking the Sabbath. It happened in this way: A Boston ship, the "Rainbow," in 1645, making the usual voyage to Madeira with staves and salt fish, touched on the coast of Guinea for a few slaves. Her captain found the English slavers on the ground already, mightily discontented, for the trade was dull. It was still the time when there was a pretense of legality about the method of procuring the slaves; they were supposed to be malefactors convicted of crime, or at the very least, prisoners taken by some native king in war. In later years the native kings, animated by an ever-growing thirst for the white man's rum, declared war in order to secure captives, and employed decoys to lure young men into the commission of crime. These devices for keeping the man-market fully supplied had not at this time been invented, and the captains of the slavers, lying off a dangerous coast in the boiling heat of a tropical country, grew restive at the long delay. Perhaps some of the rum they had brought to trade for slaves inflamed their own blood. At any rate, dragging ashore a small cannon called significantly enough a "murderer," they attacked a village,

killed many of its people, and brought off a number of blacks, two of whom fell to the lot of the captain of the "Rainbow," and were by him taken to Boston. He found no profit, however, in his piratical venture, for the story coming out, he was accused in court of "murder, man-stealing, and Sabbath-breaking," and his slaves were sent home. It was wholly as merchandise that the blacks were regarded. It is impossible to believe that the brutalities of the traffic could have been tolerated so long, had the idea of the essential humanity of the Africans been grasped by those who dealt in them. Instead, they were looked upon as a superior sort of cattle, but on the long voyage across the Atlantic were treated as no cattle are treated to-day in the worst "ocean tramps" in the trade. The vessels were small, many of them half the size of the lighters that ply sluggishly up and down New York harbor. Sloops, schooners, brigantines, and scows of 40 or 50 tons burden, carrying crews of nine men including the captain and mates, were the customary craft in the early days of the eighteenth century.

In his work on "The American Slave-Trade," Mr. John R. Spears gives the dimensions of some of these puny vessels which were so heavily freighted with human woe. The first American slaver of which we have record was the "Desire," of Marblehead, 120 tons. Later vessels, however, were much smaller. The sloop, "Welcome," had a capacity of 5000 gallons of molasses. The "Fame" was 79 feet long on the keel—about a large yacht's length. In 1847, some of the captured slavers had dimensions like these: The "Felicidade" 67 tons; the "Maria" 30 tons; the "Rio Bango" 10 tons. When the trade was legal and regulated by law, the "Maria" would have been permitted to carry 45 slaves—or one and one-half to each ton register. In 1847, the trade being outlawed, no regu-

lations were observed, and this wretched little craft imprisoned 237 negroes. But even this 10-ton slaver was not the limit. Mr. Spears finds that open rowboats, no more than 24 feet long by 7 wide, landed as many as 35 children in Brazil out of say 50 with which the voyage

"A FAVORITE TRICK OF THE FLEEING SLAVER WAS TO THROW OVER SLAVES"

began. But the size of the vessels made little difference in the comfort of the slaves. Greed packed the great ones equally with the small. The blacks, stowed in rows between decks, the roof barely 3 feet 10 inches above the floor on which they lay side by side, sometimes in "spoon-

fashion" with from 10 to 16 inches surface-room for each, endured months of imprisonment. Often they were so packed that the head of one slave would be between the thighs of another, and in this condition they would pass the long weeks which the Atlantic passage under sail consumed. This, too, when the legality of the slave trade was recognized, and nothing but the dictates of greed led to overcrowding. Time came when the trade was put under the ban of law and made akin to piracy. Then the need for fast vessels restricted hold room, and the methods of the trade attained a degree of barbarity that can not be paralleled since the days of Nero.

Shackled together "spoon-wise," as the phrase was, they suffered and sweltered through the long middle passage, dying by scores, so that often a fifth of the cargo perished during the voyage. The stories of those who took part in the effort to suppress the traffic give some idea of its frightful cruelty.

The Rev. Pascoa Grenfell Hill, a chaplain in the British navy, once made a short voyage on a slaver which his ship, the "Cleopatra," had captured. The vessel had a full cargo, and when the capture was effected, the negroes were all brought on deck for exercise and fresh air. The poor creatures quite understood the meaning of the sudden change in their masters, and kissed the hands and clothing of their deliverers. The ship was headed for the Cape of Good Hope, where the slaves were to be liberated; but a squall coming on, all were ordered below again. "The night," enters Mr. Hill in his journal, "being intensely hot, four hundred wretched beings thus crammed into a hold twelve yards in length, seven feet in breadth, and only three and one-half feet in height, speedily began to make an effort to reissue to the open air. Being thrust back and striving the more to get

out, the afterhatch was forced down upon them. Over the other hatchway, in the fore part of the vessel, a wooden grating was fastened. To this, the sole inlet for the air, the suffocating heat of the hold and, perhaps, panic from the strangeness of their situation, made them flock, and thus a great part of the space below was rendered useless. They crowded to the grating and clinging to it for air, completely barred its entrance. They strove to force their way through apertures in length fourteen inches and barely six inches in breadth, and in some instances succeeded. The cries, the heat, I may say without exaggeration, the smoke of their torment which ascended can be compared to nothing earthly. One of the Spaniards gave warning that the consequences would be 'many deaths;' this prediction was fearfully verified, for the next morning 54 crushed and mangled corpses were brought to the gangway and thrown overboard. Some were emaciated from disease, many bruised and bloody. Antoine tells me that some were found strangled; their hands still grasping each others' throats."

It is of a Brazilian slaver that this awful tale is told, but the event itself was paralleled on more than one American ship. Occasionally we encounter stories of ships destroyed by an exploding magazine, and the slaves, chained to the deck, going down with the wreck. Once a slaver went ashore off Jamaica, and the officers and crew speedily got out the boats and made for the beach, leaving the human cargo to perish. When dawn broke it was seen that the slaves had rid themselves of their fetters and were busily making rafts on which the women and children were put, while the men, plunging into the sea, swam alongside, and guided the rafts toward the shore. Now mark what the white man, the supposed representative of civilization and Christianity, did. Fearing

that the negroes would exhaust the store of provisions and water that had been landed, they resolved to destroy them while still in the water. As soon as the rafts came within range, those on shore opened fire with rifles and muskets with such deadly effect that between three hundred and four hundred blacks were murdered. Only thirty-four saved themselves—and for what? A few weeks later they were sold in the slave mart at Kingston.

In the early days of the trade, the captains dealt with recognized chiefs along the coast of Guinea, who conducted marauding expeditions into the interior to kidnap slaves. Rum was the purchase price, and by skillful dilution, a competent captain was able to double the purchasing value of his cargo. The trade was not one calculated to develop the highest qualities of honor, and to swindling the captains usually added theft and murder. Any negro who came near the ship to trade, or through motives of curiosity, was promptly seized and thrust below. Dealers who came on board with kidnapped negroes were themselves kidnapped after the bargain was made. Never was there any inquiry into the title of the seller. Any slave offered was bought, though the seller had no right—even under legalized slavery—to sell.

A picturesque story was told in testimony before the English House of Commons. To a certain slaver lying off the Windward coast a girl was brought in a canoe by a well-known black trader, who took his pay and paddled off. A few moments later another canoe with two blacks came alongside and inquired for the girl. They were permitted to see her and declared she had been kidnapped; but the slaver, not at all put out by that fact, refused to give her up. Thereupon the blacks paddled swiftly off after her seller, overtook, and captured him. Presently they brought him back to the deck of the ship—

DEALERS WHO CAME ON BOARD WERE THEMSELVES KIDNAPPED.

an article of merchandise, where he had shortly before been a merchant.

"You won't buy me," cried the captive. "I a grand trading man! I bring you slaves."

But no scruples entered the mind of the captain of the slaver. "If they will sell you I certainly will buy you," he answered, and soon the kidnapped kidnapper was in irons and thrust below in the noisome hold with the unhappy being he had sent there. A multitude of cases of negro slave-dealers being seized in this way, after disposing of their human cattle, are recorded.

It is small wonder that torn thus from home and relatives, immured in filthy and crowded holds, ill fed, denied the two great gifts of God to man—air and water—subjected to the brutality of merciless men, and wholly ignorant of the fate in store for them, many of the slaves should kill themselves. As they had a salable value the captains employed every possible device to defeat this end—every device, that is, except kind treatment, which was beyond the comprehension of the average slaver. Sometimes the slaves would try to starve themselves to death. This the captains met by torture with the cat and thumbscrews. There is a horrible story in the testimony before the English House of Commons about a captain who actually whipped a nine-months-old child to death trying to force it to eat, and then brutally compelled the mother to throw the lacerated little body overboard. Another captain found that his captives were killing themselves, in the belief that their spirits would return to their old home. By way of meeting this superstition, he announced that all who died in this way should have their heads cut off, so that if they did return to their African homes, it would be as headless spirits. The outcome of this threat was very different from what the captain had

anticipated. When a number of the slaves were brought on deck to witness the beheading of the body of one of their comrades, they seized the occasion to leap overboard and were drowned. Many sought death in this way, and as they were usually good swimmers, they actually forced themselves to drown, some persistently holding their heads under water, others raising their arms high above their heads, and in one case two who died together clung to each other so that neither could swim. Every imaginable way in which death could be sought was employed by these hopeless blacks, though, indeed, the hardships of the voyage were such as to bring it often enough unsought.

When the ship's hold was full the voyage was begun, while from the suffering blacks below, unused to seafaring under any circumstances, and desperately sick in their stifling quarters, there arose cries and moans as if the cover were taken off of purgatory. The imagination recoils from the thought of so much human wretchedness.

The publications of some of the early anti-slavery associations tell of the inhuman conditions of the trade. In an unusually commodious ship carrying over six hundred slaves, we are told that "platforms, or wide shelves, were erected between the decks, extending so far from the side toward the middle of the vessel as to be capable of containing four additional rows of slaves, by which means the perpendicular height between each tier was, after allowing for the beams and platforms, reduced to three feet, six inches, so that they could not even sit in an erect posture, besides which in the men's apartment, instead of four rows, five were stowed by putting the head of one between the thighs of another." In another ship, "In the men's apartment the space allowed to each is six feet in length by sixteen inches in breadth, the boys are each al-

lowed five feet by fourteen inches, the women five feet, ten by sixteen inches, and the girls four feet by one foot each."

"A man in his coffin has more room than one of these blacks," is the terse way in which witness after witness before the British House of Commons described the miserable condition of the slaves on shipboard.

An amazing feature of this detestable traffic is the smallness and often the unseaworthiness of the vessels in which it was carried on. Few such picayune craft now venture outside the landlocked waters of Long Island Sound, or beyond the capes of the Delaware and Chesapeake. In the early days of the eighteenth century hardy mariners put out in little craft, the size of a Hudson River brick-sloop or a harbor lighter, and made the long voyage to the Canaries and the African West Coast, withstood the perils of a prolonged anchorage on a dangerous shore, went thence heavy laden with slaves to the West Indies, and so home. To cross the Atlantic was a matter of eight or ten weeks; the whole voyage would commonly take five or six months. Nor did the vessels always make up in stanchness for their diminutive proportions. Almost any weather-beaten old hulk was thought good enough for a slaver. Captain Linsday, of Newport, who wrote home from Aumboe, said: "I should be glad I cood come rite home with my slaves, for my vessel will not last to proceed far. We can see daylight all round her bow under deck." But he was not in any unusual plight. And not only the perils of the deep had to be encountered, but other perils, some bred of man's savagery, then more freely exhibited than now, others necessary to the execrable traffic in peaceful blacks. It was a time of constant wars and the seas swarmed with French privateers alert for fat prizes. When a slaver

met a privateer the battle was sure to be a bloody one, for on either side fought desperate men—one party following as a trade legalized piracy and violent theft of cargoes, the other employed in the violent theft of men and women, and the incitement of murder and rapine that their cargoes might be the fuller. There would have been but scant loss to mankind in most of these conflicts had privateer and slaver both gone to the bottom. Not infrequently the slavers themselves turned pirate or privateer for the time—sometimes robbing a smaller craft of its load of slaves, sometimes actually running up the black flag and turning to piracy for a permanent calling.

In addition to the ordinary risks of shipwreck or capture the slavers encountered perils peculiar to their calling. Once in a while the slaves would mutiny, though such is the gentle and almost childlike nature of the African negro that this seldom occurred. The fear of it, however, was ever present to the captains engaged in the trade, and to guard against it the slaves—always the men and sometimes the women as well—were shackled together in pairs. Sometimes they were even fastened to the floor of the dark and stifling hold in which they were immured for months at a time. If heavy weather compelled the closing of the hatches, or if disease set in, as it too often did, the morning would find the living shackled to the dead. In brief, to guard against insurrection the captains made the conditions of life so cruel that the slaves were fairly forced to revolt. In 1759 a case of an uprising that was happily successful was recorded. The slaver "Perfect," Captain Potter, lay at anchor at Mana with one hundred slaves aboard. The mate, second mate, the boatswain, and about half the crew were sent into the interior to buy some more slaves. Noticing the reduced numbers of their jailors, the slaves

determined to rise. Ridding themselves of their irons, they crowded to the deck, and, all unarmed as they were, killed the captain, the surgeon, the carpenter, the cooper, and a cabin-boy. Whereupon the remainder of the crew took to the boats and boarded a neighboring slaver, the "Spencer." The captain of this craft prudently declined to board the "Perfect," and reduce the slaves to subjection

"THE ROPE WAS PUT AROUND HIS NECK"

again; but he had no objection to slaughtering naked blacks at long range, so he warped his craft into position and opened fire with his guns. For about an hour this butchery was continued, and then such of the slaves as still lived, ran the schooner ashore, plundered, and burnt her.

How such insurrections were put down was told nearly a hundred years later in an official communication

to Secretary of State James Buchanan, by United States Consul George W. Gordon, the story being sworn testimony before him. The case was that of the slaver "Kentucky," which carried 530 slaves. An insurrection which broke out was speedily suppressed, but fearing lest the outbreak should be repeated, the captain determined to give the wretched captives an "object lesson" by punishing the ringleaders. This is how he did it:

"They were ironed, or chained, two together, and when they were hung, a rope was put around their necks and they were drawn up to the yard-arm clear of the sail. This did not kill them, but only choked or strangled them. They were then shot in the breast and the bodies thrown overboard. If only one of two that were ironed together was to be hung, the rope was put around his neck and he was drawn up clear of the deck, and his leg laid across the rail and chopped off to save the irons and release him from his companion, who at the same time lifted up his leg until the other was chopped off as aforesaid, and he released. The bleeding negro was then drawn up, shot in the breast and thrown overboard. The legs of about one dozen were chopped off this way.

"When the feet fell on the deck they were picked up by the crew and thrown overboard, and sometimes they shot at the body while it still hung, living, and all sorts of sport was made of the business."

Forty-six men and one woman were thus done to death: "When the woman was hung up and shot, the ball did not take effect, and she was thrown overboard living, and was seen to struggle some time in the water before she sunk;" and deponent further says, "that after this was over, they brought up and flogged about twenty men and six women. The flesh of some of them where they were flogged putrified, and came off, in some cases,

six or eight inches in diameter, and in places half an inch thick."

This was in 1839, a time when Americans were very sure that for civilization, progress, humanity, and the Christian virtues, they were at least on as high a plane as the most exalted peoples of the earth.

Infectious disease was one of the grave perils with which the slavers had to reckon. The overcrowding of the slaves, the lack of exercise and fresh air, the wretched and insufficient food, all combined to make grave, general sickness an incident of almost every voyage, and actual epidemics not infrequent. This was a peril that moved even the callous captains and their crews, for scurvy or yellow-jack developing in the hold was apt to sweep the decks clear as well. A most gruesome story appears in all the books on the slave trade, of the experience of the French slaver, "Rodeur." With a cargo of 165 slaves, she was on the way to Guadaloupe in 1819, when opthalmia—a virulent disease of the eyes—appeared among the blacks. It spread rapidly, though the captain, in hopes of checking its ravages, threw thirty-six negroes into the sea alive. Finally it attacked the crew, and in a short time all save one man became totally blind. Groping in the dark, the helpless sailors made shift to handle the ropes, while the one man still having eyesight clung to the wheel. For days, in this wretched state, they made their slow way along the deep, helpless and hopeless. At last a sail was sighted. The "Rodeur's" prow is turned toward it, for there is hope, there rescue! As the stranger draws nearer, the straining eyes of the French helmsman discerns something strange and terrifying about her appearance. Her rigging is loose and slovenly, her course erratic, she seems to be idly drifting, and there is no one at the wheel. A derelict, abandoned at sea, she

mocks their hopes of rescue. But she is not entirely deserted, for a faint shout comes across the narrowing strip of sea and is answered from the "Rodeur." The two vessels draw near. There can be no launching of boats by blind men, but the story of the stranger is soon told. She, too, is a slaver, a Spaniard, the "Leon," and on her, too, every soul is blind from opthalmia originating among the slaves. Not even a steersman has the "Leon." All light has gone out from her, and the "Rodeur" sheers away, leaving her to an unknown fate, for never again is she heard from. How wonderful the fate—or the Providence—that directed that upon all the broad ocean teeming with ships, engaged in honest or in criminal trade, the two that should meet must be the two on which the hand of God was laid most heavily in retribution for the suffering and the woe which white men and professed Christians were bringing to the peaceful and innocent blacks of Africa.

It will be readily understood that the special and always menacing dangers attending the slave trade made marine insurance upon that sort of cargoes exceedingly high. Twenty pounds in the hundred was the usual figure in the early days. This heavy insurance led to a new form of wholesale murder committed by the captains. The policies covered losses resulting from jettisoning, or throwing overboard the cargo; they did not insure against loss from disease. Accordingly, when a slaver found his cargo infected, he would promptly throw into the sea all the ailing negroes, while still alive, in order to save the insurance. Some of the South American states, where slaves were bought, levied an import duty upon blacks, and cases are on record of captains going over their cargo outside the harbor and throwing into the

sea all who by disease or for other causes, were rendered unsalable—thus saving both duty and insurance.

In the clearer light which illumines the subject today, the prolonged difficulty which attended the destruction of the slave trade seems incredible. It appears that two such powerful maritime nations as Great Britain and the United States had only to decree the trade criminal and it would be abandoned. But we must remember that slaves were universally regarded as property, and an attempt to interfere with the right of their owners to carry them where they would on the high seas was denounced as an interference with property rights. We see that even today men are very tenacious of "property rights," and the law describes them as sacred—however immoral or repugnant to common sense and common humanity they may be. So the effort to abolish the "right" of a slaver to starve, suffocate, mutilate, torture, or murder a black man in whom he had acquired a property right by the simple process of kidnapping required more than half a century to attain complete success.

The first serious blow to the slave-trade fell in 1772, when an English court declared that any slave coming into England straightway became free. That closed all English ports to the slavers. Two years after the American colonists, then on the threshold of the revolt against Great Britain, thought to put America on a like high plane, and formally resolved that they would "not purchase any slave imported after the first day of December next; after which time, we will wholly discontinue the slave-trade, and will neither be concerned in it ourselves, nor will we hire our vessels, nor sell our commodities or manufactures to those who are concerned in it." But to this praiseworthy determination the colonists were unable to live up, and in 1776, when Jefferson proposed

to put into the Declaration of Independence the charge that the British King had forced the slave-trade on the colonies, a proper sense of their own guilt made the delegates oppose it.

It was in England that the first earnest effort to break up the slave-trade began. It was under the Stars and Stripes that the slavers longest protected their murderous traffic. For a time the effort of the British humanitarians was confined to the amelioration of the conditions of the trade, prescribing space to be given each slave, prescribing surgeons, and offering bounties to be paid captains who lost less than two per cent. of their cargoes on the voyage. It is not recorded that the bounty was often claimed. On the contrary, the horrors of what was called "the middle passage" grew with the greed of the slave captains. But the revelations of inhumanity made during the parliamentary investigation were too shocking for even the indifferent and callous public sentiment of that day. Humane people saw at once that to attempt to regulate a traffic so abhorrent to every sense of humanity, was for the nation to go into partnership with murderers and manstealers, and so the demand for the absolute prohibition of the traffic gained strength from the futile attempt to regulate it. Bills for its abolition failed, now in the House of Lords, then in the House of Commons; but in 1807 a law prohibiting all participation in the trade by British ships or subjects was passed. The United States moved very slowly. Individual States under the old confederation prohibited slavery within their borders, and in some cases the slave trade; but when our forefathers came together to form that Constitution under which the nation still exists, the opposition of certain Southern States was so vigorous that the best which could be done was to authorize a tax on slaves of not more than

ten dollars a head, and to provide that the traffic should not be prohibited before 1808. But there followed a series of acts which corrected the seeming failure of the constitutional convention. One prohibited American citizens "carrying on the slave trade from the United States to any foreign place or country." Another forbade the introduction of slaves into the Mississippi Territory Others made it unlawful to carry slaves to States which prohibited the traffic, or to fit out ships for the foreign slave trade, or to serve on a slaver. The discussion caused by all these measures did much to build up a healthy public sentiment, and when 1808—the date set by the Constitution—came round, a prohibitory law was passed, and the President was authorized to use the armed vessels of the United States to give it force and effect. Notwithstanding this, however, the slave trade, though now illegal and outlawed, continued for fully half a century. Slaves were still stolen on the coast of Africa by New England sea captains, subjected to the pains and horrors of the middle passage, and smuggled into Georgia or South Carolina, to be eagerly bought by the Southern planters. A Congressman estimated that 20,000 blacks were thus smuggled into the United States annually. Lafitte's nest of pirates at Barataria was a regular slave depot; so, too, was Amelia Island, Florida. The profit on a slave smuggled into the United States amounted to $350 or $500, and the temptation was too great for men to be restrained by fear of a law, which prescribed but light penalties. It is even matter of record that a governor of Georgia resigned his office to enter the smuggling trade on a large scale. The scandal was notorious, and the rapidly growing abolition sentiment demanded that Congress so amend its laws as to make manstealers at least as subject to them as other malefactors. But Congress tried the poli-

tician's device of passing laws which would satisfy the abolitionists, the slave trader, and the slave owner as well. To-day the duty of the nation seems to have been so clear that we have scant patience with the paltering policy of Congress and the Executive that permitted half a century of profitable law-breaking. But we must remember that slaves were property, that dealing in them was immensely profitable, and that while New England wanted this profit the South wanted the blacks. Macaulay said that if any considerable financial interest could be served by denying the attraction of gravitation, there would be a very vigorous attack on that great physical truth. And so, as there were many financial interests concerned in protecting slavery, every effort to effectually abolish the trade was met by an outcry and by shrewd political opposition. The slaves were better off in the United States than at home, Congress was assured; they had the blessings of Christianity; were freed from the endless wars and perils of the African jungle. Moreover, they were needed to develop the South, while in the trade, the hardy and daring sailors were trained, who in time would make the American navy the great power of the deep. Political chicanery in Congress reinforced the clamor from without, and though act after act for the destruction of the traffic was passed, none proved to be enforcible—in each was what the politicians of a later day called a "little joker," making it ineffective. But in 1820 a law was passed declaring slave-trading piracy, and punishable with death. So Congress had done its duty at last, but it was long years before the Executive rightly enforced the law.

It is needless to go into the details of the long series of Acts of Parliament and of Congress, treaties, conventions, and naval regulations, which gradually made the outlawry of the slaver on the ocean complete. In the

humane work England took the lead, sacrificing the flourishing Liverpool slave-trade with all its allied interests; sacrificing, too, the immediate prosperity of its West Indian colonies, whose plantations were tilled exclusively with slave labor, and even paying heavy cash indemnity to Spain to secure her acquiescence. Unhappily, the United States was as laggard as England was active. Indeed, a curious manifestation of national pride made the American flag the slaver's badge of immunity, for the Government stubbornly—and properly—refused to grant to British cruisers the right to search vessels under our flag, and as there were few or no American men-of-war cruising on the African coast, the slaver under the Stars and Stripes was virtually immune from capture. In 1842 a treaty with Great Britain bound us to keep a considerable squadron on that coast, and thereafter there was at least some show of American hostility to the infamous traffic.

The vitality of the traffic in the face of growing international hostility is to be explained by its increasing profits. The effect of the laws passed against it was to make slaves cheaper on the coast of Africa and dearer at the markets in America. A slave that cost $20 would bring $500 in Georgia. A ship carrying 500 would bring its owners $240,000, and there were plenty of men willing to risk the penalties of piracy for a share of such prodigious profits. Moreover, the seas swarmed then with adventurous sailors—mostly of American birth—to whom the very fact that slaving was outlawed made it more attractive. The years of European war had bred up among New Englanders a daring race of privateersmen—their vocation had long been piracy in all but name, a fact which in these later days the maritime nations recognize by trying to abolish privateering by inter-

national agreement. When the wars of the early years of the nineteenth century ended the privateersmen looked about for some seafaring enterprise which promised profit. A few became pirates, more went into the slave-trade. Men of this type were not merely willing to risk their lives in a criminal calling, but were quite as ready to fight for their property as to try to save it by flight. The slavers soon began to carry heavy guns, and with desperate crews were no mean antagonists for a man-of-war. Many of the vessels that had been built for privateers were in the trade, ready to fight a cruiser or rob a smaller slaver, as chance offered. We read of some carrying as many as twenty guns, and in that sea classic, "Tom Cringle's Log," there is a story—obviously founded on fact—of a fight between a British sloop-of-war and a slaver that gives a vivid idea of the desperation with which the outlaws could fight. But sometimes the odds were hopeless, and the slaver could not hope to escape by force of arms or by flight. Then the sternness of the law, together with a foolish rule concerning the evidence necessary to convict, resulted in the murder of the slaves, not by ones or twos, but by scores, and even hundreds, at a time. For it was the unwise ruling of the courts that actual presence of slaves on a captured ship was necessary to prove that she was engaged in the unlawful trade. Her hold might reek with the odor of the imprisoned blacks, her decks show unmistakable signs of their recent presence, leg-irons and manacles might bear dumb testimony to the purpose of her voyage, informers in the crew might even betray the captain's secret; but if the boarders from the man-of-war found no negroes on the ship, she went free. What was the natural result? When a slaver, chased by a cruiser, found that capture was certain, her cargo of slaves was thrown overboard. The cruiser in the distance might

detect the frightful odor that told unmistakably of a slave-ship. Her officers might hear the screams of the unhappy blacks being flung into the sea. They might even see the bodies floating in the slaver's wake; but if, on boarding the suspected craft, they found her without a single captive, they could do nothing. This was the law for many years, and because of it thousands of slaves met a cruel death as the direct result of the effort to save them from slavery. Many stories are told of these wholesale drownings. The captain of the British cruiser "Black Joke" reports of a case in which he was pursuing two slave ships:

"When chased by the tenders both put back, made all sail up the river, and ran on shore. During the chase they were seen from our vessels to throw the slaves overboard by twos, shackled together by the ankles, and left in this manner to sink or swim as best they could. Men, women, and children were seen in great numbers struggling in the water by everyone on board the two tenders, and, dreadful to relate, upward of 150 of these wretched creatures perished in this way."

In this case, the slavers did not escape conviction, though the only penalty inflicted was the seizure of their vessels. The pursuers rescued some of the drowning negroes, who were able to testify that they had been on the suspected ship, and condemnation followed. The captain of the slaver "Brillante" took no chance of such a disaster. Caught by four cruisers in a dead calm, hidden from his enemy by the night, but with no chance of escaping before dawn, this man-stealer set about planning murder on a plan so large and with such system as perhaps has not been equaled since Caligula. First he had his heaviest anchor so swung that cutting a rope would drop it. Then the chain cable was stretched about the ship,

outside the rail, and held up by light bits of rope, that would give way at any stout pull. Then the slaves—600 in all—were brought up from below, open-eyed, whispering, wondering what new act in the pitiful drama of their lives this midnight summons portended. With blows and curses the sailors ranged them along the rail and bound them to the chain cable. The anchor was cut loose, plunging into the sea it carried the cable and the shackled slaves with it to the bottom. The men on the approaching man-of-war's boats, heard a great wail of many voices,

"BOUND THEM TO THE CHAIN CABLE"

a rumble, a splash, then silence, and when they reached the ship its captain politely showed them that there were no slaves aboard, and laughed at their comments on the obvious signs of the recent presence of the blacks.

A favorite trick of the slaver, fleeing from a man-of-war, was to throw over slaves a few at a time in the hope

that the humanity of the pursuers would impel them to stop and rescue the struggling negroes, thus giving the slave-ship a better chance of escape. Sometimes these hapless blacks thus thrown out, as legend has it Siberian peasants sometimes throw out their children as ransom to pursuing wolves, were furnished with spars or barrels to keep them afloat until the pursuer should come up; and occasionally they were even set adrift by boat-loads. It was hard on the men of the navy to steel their hearts to the cries of these castaways as the ship sped by them; but if the great evil was to be broken up it could not be by rescuing here and there a slave, but by capturing and punishing the traders. Many officers of our navy have left on record their abhorrence of the service they were thus engaged in, but at the same time expressed their conviction that it was doing the work of humanity. They were obliged to witness such human suffering as might well move the stoutest human heart. At times they were even forced to seem as merciless to the blacks as the slave-traders themselves; but in the end their work, like the merciful cruelty of the surgeon, made for good.

When a slaver was overhauled after so swift a chase that her master had no opportunity to get rid of his damning cargo, the boarding officers saw sights that scarce Inferno itself could equal. To look into her hold, filled with naked, writhing, screaming, struggling negroes was a sight that one could see once and never forget. The effluvium that arose polluted even the fresh air of the ocean, and burdened the breeze for miles to windward. The first duty of the boarding officer was to secure the officers of the craft with their papers. Not infrequently such vessels would be provided with two captains and two sets of papers, to be used according to the nationality of the warship that might make the capture; but the men of

all navies cruising on the slave coast came in time to be expert in detecting such impostures. The crew once under guard, the first task was to alleviate in some degree the sufferings of the slaves. But this was no easy task, for the overcrowded vessel could not be enlarged, and its burden could in no way be decreased in mid-ocean. Even if near the coast of Africa, the negroes could not be released by the simple process of landing them at the nearest point, for the land was filled with savage tribes, the captives were commonly from the interior, and would merely have been murdered or sold anew into slavery, had they been thus abandoned. In time the custom grew up of taking them to Liberia, the free negro state established in Africa under the protection of the United States. But it can hardly be said that much advantage resulted to the individual negroes rescued by even this method, for the Liberians were not hospitable, slave traders camped upon the borders of their state, and it was not uncommon for a freed slave to find himself in a very few weeks back again in the noisome hold of the slaver. Even under the humane care of the navy officers who were put in command of captured slavers the human cattle suffered grievously. Brought on deck at early dawn, they so crowded the ships that it was almost impossible for the sailors to perform the tasks of navigation. One officer, who was put in charge of a slaver that carried 700 slaves, writes:

"They filled the waist and gangways in a fearful jam, for there were over 700 men, women, boys, and young girls. Not even a waistcloth can be permitted among slaves on board ship, since clothing even so slight would breed disease. To ward off death, ever at work on a slave ship, I ordered that at daylight the negroes should be taken in squads of twenty or more, and given a salt-

water bath by the hose-pipe of the pumps. This brought renewed life after their fearful nights on the slave deck. . . . No one who has never seen a slave deck can form an idea of its horrors. Imagine a deck about 20 feet wide, and perhaps 120 feet long, and 5 feet high. Imagine this to be the place of abode and sleep during long, hot, healthless nights of 720 human beings! At sundown, when they were carried below, trained slaves received the poor wretches one by one, and laying each creature on his side in the wings, packed the next against him, and the next, and the next, and so on, till like so many spoons packed away they fitted into each other a living mass. Just as they were packed so must they remain, for the pressure prevented any movement or the turning of hand or foot, until the next morning, when from their terrible night of horror they were brought on deck once more, weak and worn and sick." Then, after all had come up and been splashed with salt water from the pumps, men went below to bring up the dead. There was never a morning search of this sort that was fruitless. The stench, the suffocation, the confinement, oftentimes the violence of a neighbor, brought to every dawn its tale of corpses, and with scant gentleness all were brought up and thrown over the side to the waiting sharks. The officer who had this experience writes also that it was thirty days after capturing the slaver before he could land his helpless charges.

No great moral evil can long continue when the attention of men has been called to it, and when their consciences, benumbed by habit, have been aroused to appreciation of the fact that it is an evil. To be sure, we, with the accumulated knowledge of our ancestors and our minds filled with a horror which their teachings instilled, sometimes think that they were slow to awaken to the

enormity of some evils they tolerated. So perhaps our grandchildren may wonder that we endured, and even defended, present-day conditions, which to them will appear indefensible. And so looking back on the long continuance of the slave-trade, we wonder that it could have made so pertinacious a fight for life. We marvel, too, at the character of some of the men engaged in it in its earlier and more lawful days, forgetting that their minds had not been opened, that they regarded the negro as we regard a beeve. If in some future super-refined state men should come to abstain from all animal food, perhaps the history of the Chicago stock-yards will be as appalling as is that of the Bight of Benin to-day, and that the name of Armour should be given to a great industrial school will seem as curious as to us it is inexplicable that the founder of Fanueil Hall should have dealt in human flesh.

It is, however, a chapter in the story of the American merchant sailor upon which none will wish to linger, and yet which can not be ignored. In prosecuting the search for slaves and their markets he showed the qualities of daring, of fine seamanship, of pertinacity, which have characterized him in all his undertakings; but the brutality, the greed, the inhumanity inseparable from the slave-trade make the participation of Americans in it something not pleasant to enlarge upon. It was, as I have said, not until the days of the Civil War blockade that the traffic was wholly destroyed. As late as 1860 the yacht "Wanderer," flying the New York Yacht Club's flag, owned by a club member, and sailing under the auspices of a member of one of the foremost families of the South, made several trips, and profitable ones, as a slaver. No armed vessel thought to overhaul a trim yacht, flying a private flag, and on her first trip her officers actually entertained at

dinner the officers of a British cruiser watching for slavers on the African coast. But her time came, and when in 1860 the slaver, Nathaniel Gordon, a citizen of Portland, Maine, was actually hanged as a pirate, the death-blow of the slave-trade was struck. Thereafter the end came swiftly.

CHAPTER IV

THE WHALING INDUSTRY — ITS EARLY DEVELOPMENT IN NEW ENGLAND — KNOWN TO THE ANCIENTS — SHORE WHALING — BEGINNINGS OF THE DEEP-SEA FISHERIES — THE PRIZES OF WHALING — PIETY OF ITS EARLY PROMOTERS — THE RIGHT WHALE AND THE CACHALOT — A FLURRY — SOME FIGHTING WHALES — THE "ESSEX" AND THE "ANN ALEXANDER" — TYPES OF WHALERS — DECADENCE OF THE INDUSTRY — EFFECT OF OUR NATIONAL WARS — THE EMBARGO — SOME STORIES OF WHALING LIFE.

IN the old "New England Primer," on which the growing minds of Yankee infants in the early days of the eighteenth century were regaled, appears a clumsy woodcut of a spouting whale, with these lines of excellent piety but doubtful rhyme:

Whales in the sea
Their Lord obey.

It is significant of the part which the whale then played in domestic economy that his familiar bulk should be utilized to "point a moral and adorn a tale" in the most elementary of books for the instruction of children. And indeed by the time the "New England Primer" was published, with its quaint lettering and rude illustrations, the whale fishery had come to be one of the chief occupations of the seafaring men of the North Atlantic States. The pursuit of this "royal fish"—as the ancient chroniclers call him in contented ignorance of the fact that he is not a fish at all—had not, indeed, originated in New England, but had been practised by all maritime peoples of whom history has knowledge, while the researches of archeolo-

gists have shown that prehistoric peoples were accustomed to chase the gigantic cetacean for his blubber, his oil, and his bone. The American Indians, in their frail canoes, the Esquimaux, in their crank kayaks, braved the fury of this aquatic monster, whose size was to that of one of his enemies as the bulk of a battle-ship is to that of a pigmy torpedo launch. But the whale fishery in vessels fitted for cruises of moderate length had its origin in Europe, where the Basques during the Middle Ages fairly drove the animals from the Bay of Biscay, which had long swarmed with them. Not a prolific breeder, the whales soon showed the effect of Europe's eagerness for oil, whalebone and ambergris, and by the beginning of the sixteenth century the industry was on the verge of extinction. Then began that search for a sea passage to India north of the continents of Europe and America, which I have described in another chapter. The passage was not discovered, but in the icy waters great schools of right whales were found, and the chase of the "royal fish" took on new vigor. Of course there was effort on the part of one nation to acquire by violence a monopoly of this profitable business, and the Dutch, who have done much in the cause of liberty, defeated the British in a naval battle at the edge of the ice before the principle of the freedom of the fisheries was accepted. To-day science has discovered substitutes for almost all of worth that the whales once supplied, and the substitutes are in the main marked improvements on the original. But in the seventeenth and eighteenth centuries the clear whale oil for illuminating purposes, the tough and supple whalebone, the spermaceti which filled the great case in the sperm-whale's head, the precious ambergris—prized even among the early Hebrews, and chronicled in the Scriptures as a thing of great price—were prizes, in pursuit of which men

braved every terror of the deep, threaded the ice-floes of the Arctic, fought against the currents about Cape Horn, and steered to every corner of the Seven Seas the small, stout brigs and barks of New England make.

The whale came to the New Englander long before the New Englanders went after him. In the earliest colonial days the carcasses of whales were frequently found stranded on the beaches of Cape Cod and Long Island. Old colonial records are full of the lawsuits growing out of these pieces of treasure-trove, the finder, the owner of the land where the gigantic carrion lay stranded, and the colony all claiming ownership, or at least shares. By 1650 all the northern colonies had begun to pursue the business of shore whaling to some extent. Crews were organized, boats kept in readiness on the beach, and whenever a whale was sighted they would put off with harpoons and lances after the huge game, which, when slain, would be towed ashore, and there cut up and tried out, to the accompaniment of a prodigious clacking of gulls and a widely diffused bad smell. This method of whaling is still followed at Amagansett and Southampton, on the shore of Long Island, though the growing scarcity of whales makes catches infrequent. In the colonial days, however, it was a source of profit assiduously cultivated by coastwise communities, and both on Long Island and Cape Cod citizens were officially enjoined to watch for whales off shore. Whales were then seen daily in New York harbor, and in 1669 one Samuel Maverick recorded in a letter that thirteen whales had been taken along the south shore during the winter, and twenty in the spring.

Little by little the boat voyages after the leviathans extended further into the sea as the industry grew and the game became scarce and shy. The people of Cape Cod were the first to begin the fishery, and earliest per-

fected the art of "saving" the whale—that is, of securing all of value in the carcass. But the people of the little island of Nantucket brought the industry to its highest development, and spread most widely the fame of the American whaleman. Indeed, a Nantucket whaler laden with oil was the first vessel flying the Stars and Stripes that entered a British port. It is of a sailor on this craft that a patriotic anecdote, now almost classic, is told. He was unhappily deformed, and while passing along a Liverpool street was greeted by a British tar with a blow on his "humpback" and the salutation: "Hello, Jack! What you got there?" "Bunker Hill, d——n ye!" responded the Yankee. "Think you can climb it?" Far out at sea, swept ever by the Atlantic gales, a mere sand-bank, with scant surface soil to support vegetation, this island soon proved to its settlers its unfitness to maintain an agricultural people. There is a legend that an islander, weary perhaps with the effort of trying to wrest a livelihood from the unwilling soil, looked from a hilltop at the whales tumbling and spouting in the ocean. "There," he said, "is a green pasture where our children's grandchildren will go for bread." Whether the prophecy was made or not, the event occurred, for before the Revolution the American whaling fleet numbered 360 vessels, and in the banner year of the industry, 1846, 735 ships engaged in it, the major part of the fleet hailing from Nantucket. The cruises at first were toward Greenland after the so-called right whales, a variety of the cetaceans which has an added commercial value because of the baleen, or whalebone, which hangs in great strips from the roof of its mouth to its lower jaw, forming a sort of screen or sieve by which it sifts its food out of prodigious mouthfuls of sea water. This most enormous of known living creatures feeds upon very small shell-fish, which

swarm in the waters it frequents. Opening wide its colossal mouth, a cavity often more than fifteen feet in length, and so deep from upper to lower jaw that the flexible sheets of whalebone, sometimes ten feet long, hang straight without touching its floor, it takes a great gulp of water. Then the cavernous jaws slowly close, expelling the water through the whalebone sieve, somewhat as a Chinese laundryman sprinkles clothes, and the small marine animals which go to feed that prodigious bulk are caught in the strainer. The right whale is from 45 to 60 feet long in its maturity, and will yield about 15 tons of oil and 1500 weight of whalebone, though individuals have been known to give double this amount.

Most of the vessels which put out of Nantucket and New Bedford, in the earliest days of the industry, after whales of this sort, were not fitted with kettles and furnaces for trying out the oil at the time of the catch, as was always the custom in the sperm-whale fishery. Their prey was near at hand, their voyages comparatively short. So the fat, dripping, reeking blubber was crammed into casks, or some cases merely thrown into the ship's hold, just as it was cut from the carcass, and so brought back weeks later to the home port—a shipload of malodorous putrefaction. Old sailors who have cruised with cargoes of cattle, of green hides, and of guano, say that nothing that ever offended the olfactories of man equals the stench of a right-whaler on her homeward voyage. Scarcely even could the slave-ships compare with it. Brought ashore, this noisome mass was boiled in huge kettles, and the resulting oil sent to lighten the night in all civilized lands. England was a good customer of the colonies, and Boston shipowners did a thriving trade with oil from New Bedford or Nantucket to London. The sloops and ketches engaged in this com-

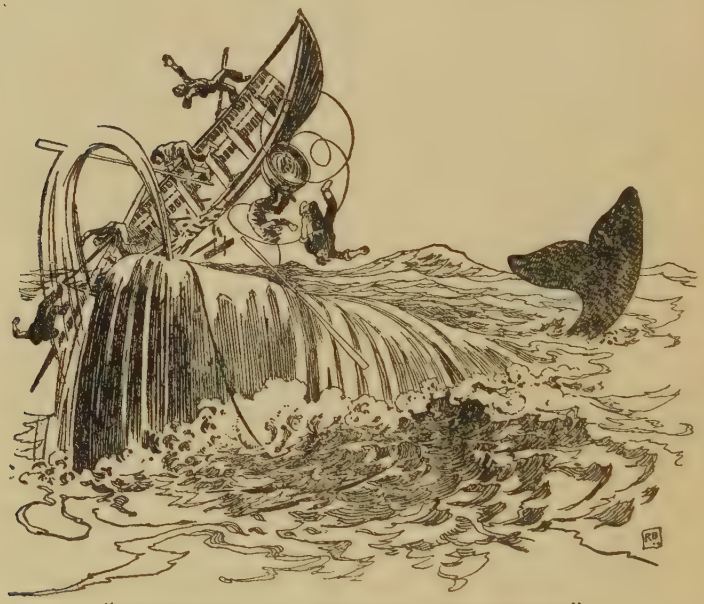
merce brought back, as an old letter of directions from shipowner to skipper shows, "course wicker flasketts, Allom, Copress, drum rims, head snares, shod shovells, window-glass." The trade was conducted with the same piety that we find manifested in the direction of slave-ships and privateers. In order that the oil may fetch a good price, and the voyage be speedy, the captain is commended to God, and "That hee may please to take the Conduct of you, we pray you look carefully that hee bee worshipped dayly in yor shippe, his Sabbaths Sanctifiede, and all sinne and prophainesse let bee Surpressed." In the Revolution the fisheries suffered severely from the British cruisers, and when, after peace was declared, the whalemen began coming back from the privateers, in which they had sought service, and the wharves of Nantucket, New Bedford, and New London began again to show signs of life, the Americans were confronted by the closing of their English markets. "The whale fisheries and the Newfoundland fisheries were the nurseries of British seamen," said the British ministry to John Adams, who went to London to remonstrate. "If we let Americans bring oil to London, and sell fish to our West India colonies, the British marine will decline." For a long time, therefore, the whalers had to look elsewhere than to England for a market. Nevertheless the trade grew. New Bedford, which by the middle of the nineteenth century held three-fourths of the business, took it up with great vigor. For a time Massachusetts gave bounties to encourage the industry, but it was soon strong enough to dispense with them. By 1789 the whalers found their way to the Pacific—destined in later years to be their chief fishing-ground. In that year the total whaling tonnage of Massachusetts was 10,210, with 1611 men and an annual product of 7880 barrels sperm and 13,130 barrels

whale oil. Fifteen years earlier—before the war—the figures were thrice as great.

Before this period, however, whaling had taken on a new form. Deep-sea whaling, as it was called, to distinguish it from the shore fisheries, had begun long ago. Capt. Christopher Hursey, a stout Nantucket whaleman, cruising about after right whales, ran into a stiff northwest gale and was carried far out to sea. He struck a school of sperm-whales, killed one, and brought blubber home. It was not a new discovery, for the sperm-whale or cachalot, had been known for years, but the great numbers of right whales and the ease with which they were taken, had made pursuit of this nobler game uncommon. But now the fact, growing yearly more apparent, that right whales were being driven to more inaccessible haunts, made whalers turn readily to this new prey. Moreover, the sperm-whale had in him qualities of value that made him a richer prize than his Greenland cousin. True, he lacked the useful bone. His feeding habits did not necessitate a sieve, for, as beseems a giant, he devoured stout victuals, pieces of great squids—the fabled devil-fish—as big as a man's body being found in his stomach. Such a diet develops his fighting qualities, and while the right whale usually takes the steel sullenly, and dies like an overgrown seal, the cachalot fights fiercely, now diving with such a rush that he has been known to break his jaw by the fury with which he strikes the bottom at the depth of 200 fathoms; now raising his enormous bulk in air, to fall with an all-obliterating crash upon the boat which holds his tormentors, or sending boat and men flying into the air with a furious blow of his gristly flukes, or turning on his back and crunching his assailants between his cavernous jaws. Descriptions of the dying flurry of the sperm-whale are plentiful in whaling literature, many of

the best of them being in that ideal whaleman's log, "The Cruise of the Cachalot," by Frank T. Bullen. I quote one of these:

"Suddenly the mate gave a howl: 'Starn all—starn all! Oh, starn!' and the oars bent like canes as we obeyed —there was an upheaval of the sea just ahead; then



"SENDING BOAT AND MEN FLYING INTO THE AIR"

slowly, majestically, the vast body of our foe rose into the air. Up, up it went while my heart stood still, until the whole of that immense creature hung on high, apparently motionless, and then fell—a hundred tons of solid flesh—back into the sea. On either side of that mountainous mass the waters rose in shining towers of snowy foam,

which fell in their turn, whirling and eddying around us as we tossed and fell like a chip in a whirlpool. Blinded by the flying spray, baling for very life to free the boat from the water, with which she was nearly full, it was some minutes before I was able to decide whether we were still uninjured or not. Then I saw, at a little distance, the whale lying quietly. As I looked he spouted and the vapor was red with his blood. 'Starn all!' again cried our chief, and we retreated to a considerable distance. The old warrior's practised eye had detected the coming climax of our efforts, the dying agony, or 'flurry,' of the great mammal. Turning upon his side, he began to move in a circular direction, slowly at first, then faster and faster, until he was rushing round at tremendous speed, his great head raised quite out of water at times, slashing his enormous jaws. Torrents of blood poured from his spout-hole, accompanied by hoarse bellowings, as of some gigantic bull, but really caused by the laboring breath trying to pass through the clogged air-passages. The utmost caution and rapidity of manipulation of the boat was necessary to avoid his maddened rush, but this gigantic energy was short-lived. In a few minutes he subsided slowly in death, his mighty body reclined on one side, the fin uppermost waving limply as he rolled to the swell, while the small waves broke gently over the carcass in a low, monotonous surf, intensifying the profound silence that had succeeded the tumult of our conflict with the late monarch of the deep."

Not infrequently the sperm-whale, breaking loose from the harpoon, would ignore the boats and make war upon his chief enemy—the ship. The history of the whale fishery is full of such occurrences. The ship "Essex," of Nantucket, was attacked and sunk by a whale, which

planned its campaign of destruction as though guided by human intelligence. He was first seen at a distance of several hundred yards, coming full speed for the ship. Diving, he rose again to the surface about a ship's length away, and then surged forward on the surface, striking the vessel just forward of the fore-chains. "The ship brought up as suddenly and violently as if she had struck a rock," said the mate afterward, "and trembled for a few seconds like a leaf." Then she began to settle, but not fast enough to satisfy the ire of the whale. Circling around, he doubled his speed, and bore down upon the "Essex" again. This time his head fairly stove in the bows, and the ship sank so fast that the men were barely able to provision and launch the boats. Curiously enough, the monster that had thus destroyed a stout ship paid no attention whatsoever to the little boats, which would have been like nutshells before his bulk and power. But many of the men who thus escaped only went to a fate more terrible than to have gone down with their stout ship. Adrift on a trackless sea, 1000 miles from land, in open boats, with scant provision of food or water, they faced a frightful ordeal. After twenty-eight days they found an island, but it proved a desert. After leaving it the boats became separated—one being never again heard of. In the others men died fast, and at last the living were driven by hunger actually to eat the dead. Out of the captain's boat two only were rescued; out of the mate's, three. In all twelve men were sacrificed to the whale's rage.

Mere lust for combat seemed to animate this whale, for he had not been pursued by the men of the "Essex," though perhaps in some earlier meeting with men he had felt the sting of the harpoon and the searching thrust of the lance. So great is the vitality of the cachalot that it

not infrequently breaks away from its pursuers, and with two or three harpoon-heads in its body lives to a ripe, if not a placid, old age. The whale that sunk the New Bedford ship "Ann Alexander" was one of these fighting veterans. With a harpoon deep in his side he turned and deliberately ran over and sunk the boat that was fast to him; then with equal deliberation sent a second boat to the bottom. This was before noon, and occurred about six miles from the ship, which bore down as fast as could be to pick up the struggling men. The whale, apparently contented with his escape, made off. But about sunset Captain Delois, iron in hand, watching from the knight-heads of the "Ann Alexander" for other whales to repair his ill-luck, saw the redoubtable fighter not far away, swimming at about a speed of five knots. At the same time the whale spied the ship. Increasing his speed to fifteen knots, he bore down upon her, and with the full force of his more than 100 tons bulk struck her "a terrible blow about two feet from the keel and just abreast of the fore-mast, breaking a large hole in her bottom, through which the water poured in a rushing stream." The crew had scarce time to get out the boats, with one day's provisions, but were happily picked up by a passing vessel two days later. The whale itself met retribution five months later, when it was taken by another American ship. Two of the "Ann Alexander's" harpoons were in him, his head bore deep scars, and in it were imbedded pieces of the ill-fated ship's timbers.

Instances of the combativeness of the sperm-whale are not confined to the records of the whale fishery. Even as I write I find in a current San Francisco newspaper the story of the pilot-boat "Bonita," sunk near the Farallon Islands by a whale that attacked her out of sheer wantonness and lust for fight. The "Bonita" was lying hove-to,

lazily riding the swells, when in the dark—it was 10 o'clock at night—there came a prodigious shock, that threw all standing to the deck and made the pots and pans of the cook's galley jingle like a chime out of tune. From the deck the prodigious black bulk of a whale, about eighty feet long, could be made out, lying lazily half out of water near the vessel. The timbers of the "Bonita" must have been crushed by his impact, for she began to fill, and soon sank.

In this case the disaster was probably not due to any rage or malicious intent on the part of the whale. Indeed, in the days when the ocean was more densely populated with these huge animals, collision with a whale was a well-recognized maritime peril. How many of the stout vessels against whose names on the shipping list stands the fatal word "missing," came to their ends in this way can never be known; but maritime annals are full of the reports of captains who ran "bows on" into a mysterious reef where the chart showed no obstruction, but which proved to be a whale, reddening the sea with his blood, and sending the ship—not less sorely wounded—into some neighboring port to refit.

The tools with which the business of hunting the whale is pursued are simple, even rude. Steam, it is true, has succeeded to sails, and explosives have displaced the sinewy arm of the harpooner for launching the deadly shafts; but in the main the pursuit of the monsters is conducted now as it was sixty years ago, when to command a whaler was the dearest ambition of a New England coastboy. The vessels were usually brigs or barks, occasionally schooners, ranging from 100 to 500 tons. They had a characteristic architecture, due in part to the subordination of speed to carrying capacity, and further to the specially heavy timbering about the bows to withstand

"SUDDENLY THE MATE GAVE A HOWL: 'STARN ALL!'"

the crushing of the Arctic ice-pack. The bow was scarce distinguishable from the stern by its lines, and the masts stuck up straight, without that rake, which adds so much to the trim appearance of a clipper. Three peculiarities chiefly distinguished the whalers from other ships of the same general character. At the main royal-mast head was fixed the "crow's nest"—in some vessels a heavy barrel lashed to the mast, in others merely a small platform laid on the cross-trees, with two hoops fixed to the mast above, within which the lookout could stand in safety. On the deck, amidships, stood the "try-works," brick furnaces, holding two or three great kettles, in which the blubber was reduced to odorless oil. Along each rail were heavy, clumsy wooden cranes, or davits, from which hung the whale-boats—never less than five, sometimes more, while still others were lashed to the deck, for boats were the whale's sport and playthings, and seldom was a big "fish" made fast that there was not work for the ship's carpenter.

The whale-boat, evolved from the needs of this fishery, is one of the most perfect pieces of marine architecture afloat—a true adaptation of means to an end. It is clinker-built, about 27 feet long, by 6 feet beam, with a depth of about 2 feet 6 inches; sharp at both ends and clean-sided as a mackerel. Each boat carried five oarsmen, who wielded oars of from nine to sixteen feet in length, while the mate steers with a prodigious oar ten feet long. The bow oarsman is the harpooner, but when he has made fast to the whale he goes aft and takes the mate's place at the steering oar, while the latter goes forward with the lances to deal the final murderous strokes. This curious and dangerous change of position in the boat, often with a heavy sea running, and with a 100-ton whale tugging at the tug-line seems to have grown out

of nothing more sensible than the insistence of mates on recognition of their rank. But a whale-boat is not the only place where a spill is threatened because some one in power insists on doing something at once useless and dangerous.

The whale-boat also carried a stout mast, rigging two sprit sails. The mast was instantly unshipped when the whale was struck. The American boats also carried centerboards, lifting into a framework extending through the center of the craft, but the English whalemen omitted these appendages. A rudder was hung over the side, for use in emergencies. Into this boat were packed, with the utmost care and system, two line-tubs, each holding from 100 to 200 fathoms of fine manila rope, one and one-half inches round, and of a texture like yellow silk; three harpoons, wood and iron, measuring about eight feet over all, and weighing about ten pounds; three lances of the finest steel, with wooden handles, in all about eight feet long; a keg of drinking water and one of biscuits; a bucket and piggin for bailing, a small spade, knives, axes, and a shoulder bomb-gun. It can be understood easily that six men, maneuvering in so crowded a boat, with a huge whale flouncing about within a few feet, a line whizzing down the center, to be caught in which meant instant death, and the sea often running high, had need to keep their wits about them.

Harpoons and lances are kept ground to a razor edge, and, propelled by the vigorous muscles of brawny whalemen, often sunk out of sight through the papery skin and soft blubber of the whale. Beyond these primitive appliances the whale fishery never progressed very far. It is true that in later days a shoulder-gun hurled the harpoon, explosive bombs replaced the lances, the ships were in some cases fitted with auxiliary steam-power, and in

a few infrequent instances steam launches were employed for whale-boats. But progress was not general. The old-fashioned whaling tubs kept the seas, while the growing scarcity of the whales and the blow to the demand for oil dealt by the discovery of petroleum, checked the development of the industry. Now the rows of whalers rotting at New Bedford's wharves, and the somnolence of Nantucket, tell of its virtual demise.

These two towns were built upon the prosperity of the whale fishery. When it languished their fortunes sunk, never to rise to their earlier heights, though cotton-spinning came to occupy the attention of the people of New Bedford, while Nantucket found a placid prosperity in entertaining summer boarders. And even during the years when whales were plentiful, and their oil still in good demand, there came periods of interruption to the trade and poverty to its followers. The Revolution first closed the seas to American ships for seven long years, and at its close the whalers found their best market—England—still shut against them. Moreover, the high seas during the closing years of the eighteenth and the opening of the nineteenth centuries were not as to-day, when a pirate is as scarce a beast of prey as a highwayman on Hounslow Heath. The Napoleonic wars had broken down men's natural sense of order and of right, and the seas swarmed with privateers, who on occasion were ready enough to turn pirates. Many whalers fell a prey to these marauders, whose operations were rather encouraged than condemned by the European nations. Both England and France were at this period endeavoring to lure the whalemen from the United Colonies by promise of special concessions in trade, or more effective protection on the high seas than their own weakling governments could assure them. Some Nantucket whalemen

were indeed enticed to the new English whaling town at Dartmouth, near Halifax, or to the French town of Dunkirk. But the effort to transplant the industry did not succeed, and the years that followed, until the fateful embargo of 1807, were a period of rapid growth for the whale fishery and increasing wealth for those who pursued it. In the form of its business organization the business of whaling was the purest form of profit-sharing we have ever seen in the United States. Everybody on the ship, from captain to cabin-boy, was a partner, vitally interested in the success of the voyage. Each had his "lay"—that is to say, his proportionate share of the proceeds of the catch. Obed Macy, in his "History of Nantucket," says: "The captain's lay is generally one-seventeenth part of all obtained; the first officer's one-twenty-eighth part; the second officer's, one-forty-fifth; the third officer's, one-sixtieth; a boat-steerer's from an eightieth to a hundred-and-twentieth, and a foremast hand's, from a hundred-and-twentieth to a hundred-and-eighty-fifth each." These proportions, of course, varied —those of the men according to the ruling wages in other branches of the merchant service; those of the officers to correspond with special qualities of efficiency. All the remainder of the catch went to the owners, who put into the enterprise the ship and outfitted her for a cruise, which usually occupied three years. Their investment was therefore a heavy one, a suitable vessel of 300-tons burden costing in the neighborhood of $22,000, and her outfit $18,000 to $20,000. Not infrequently the artisans engaged in fitting out a ship were paid by being given "lays," like the sailor. In such a case the boatmaker who built the whale-boats, the ropemaker who twisted the stout, flexible manila cord to hold the whale, the sailmaker and the cooper were all interested with the crew and the

owners in the success of the voyage. It was the most practical communism that industry has ever seen, and it worked to the satisfaction of all concerned as long as the whaling trade continued profitable.

The wars in which the American people engaged during the active days of the whale fishery—the Revolution, the War of 1812, and the Civil War—were disastrous to that industry, and from the depredations committed by the Confederate cruisers in the last conflict it never fully recovered. The nature of their calling made the whalemen peculiarly vulnerable to the evils of war. Cruising in distant seas, always away from home for many months, often for years, a war might be declared and fought to a finish before they knew of it. In the disordered Napoleonic days they never could tell whether the flag floating at the peak of some armed vessel encountered at the antipodes was that of friend or foe. During both the wars with England they were the special objects of the enemy's malignant attention. From the earliest days American progress in maritime enterprise was viewed by the British with apprehension and dislike. Particularly did the growth of the cod fisheries and the chase of the whale arouse transatlantic jealousy, the value of these callings as nurseries for seamen being only too plainly apparent. Accordingly the most was made of the opportunities afforded by war for crushing the whaling industry. Whalers were chased to their favorite fishing-grounds, captured, and burned. With cynical disregard of all the rules of civilized warfare—supposing war ever to be civilized—the British gave to the captured whalers only the choice of serving in British men-of-war against their own countrymen, or re-entering the whaling trade on British ships, thus building up the British whale fishery at the expense of the American. The American response to these tac-

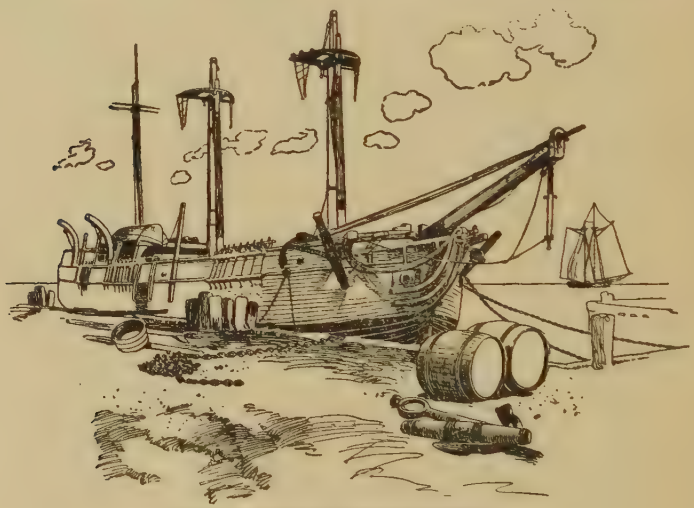
tics was to abandon the business during war time. In 1775 Nantucket alone had had 150 vessels, aggregating 15,000 tons, afloat in pursuit of the whale. The trade was pushed with such daring and enterprise that Edmund Burke was moved to eulogize its followers in an eloquent speech in the British House of Commons. "Neither the perseverance of Holland," he said, "nor the activity of France, nor the dexterous and firm sagacity of English enterprise, ever carried this most perilous mode of hardy industry to the extent to which it has been pushed by this most recent people." But the eloquence of Burke could not halt the British ministry in its purpose to tax the colonies despite their protests. The Revolution followed, and the whalemen of Nantucket and New Bedford stripped their vessels, sent down yards and all running rigging, stowed the sails, tied their barks and brigs to the deserted wharves and went out of business. The trade thus rudely checked had for the year preceding the outbreak of the war handled 45,000 barrels of sperm oil, 8500 barrels of right-whale oil, and 75,000 pounds of bone.

The enforced idleness of the Revolutionary days was not easily forgotten by the whalemen, and their discontent and complainings were great when the nation was again embroiled in war with Great Britain in 1812. It can not be said that their attitude in the early days of that conflict was patriotic. They had suffered—both at the hands of France and England—wrongs which might well rouse their resentment. They had been continually impressed by England, and the warships of both nations had seized American whalers for real or alleged violations of the Orders in Council or the Ostend Manifesto; but the whalemen were more eager for peace, even with the incidental perils due to war in Europe, than for war,

with its enforced idleness. When Congress ordered the embargo the whalers were at first explicitly freed from its operations; but this provision being seized upon to cover evasions of the embargo, they were ultimately included. When war was finally declared, the protests of the Nantucket people almost reached the point of threatening secession. A solemn memorial was first addressed to Congress, relating the exceedingly exposed condition of the island and its favorite calling to the perils of war, and begging that the actual declaration of war might be averted. When this had availed nothing, and the young nation had rushed into battle with a courage that must seem to us now foolhardy, the Nantucketers adopted the doubtful expedient of seeking special favor from the enemy. An appeal for immunity from the ordinary acts of war was addressed to the British Admiral Cochrane, and a special envoy was sent to the British naval officer commanding the North American station, to announce the neutrality of the island and to beg immunity from assault and pillage, and assurance that one vessel would be permitted to ply unmolested between the island and the mainland. As a result of these negotiations, Nantucket formally declared her neutrality, and by town meeting voted to accede to the British demand that her people pay no taxes for the support of the United States. In all essential things the island ceased to be a part of the United States, its people neither rendering military service nor contributing to the revenues. But their submission to the British demands did not save the whale-trade, for repeated efforts to get the whalers declared neutral and exempt from capture failed.

Half a century of peace followed, during which the whaling industry rose to its highest point; but was again on the wane when the Civil War let loose upon the re-

maining whalemen the Confederate cruisers, the "Shenandoah" alone burning thirty-four of them. From this last stroke the industry, enfeebled by the lessened demand for its chief product, and by the greater cost and length of voyages resulting from the growing scarcity of whales, never recovered. To-day its old-time ports are deserted by traffic. Stripped of all that had salable value, its ships rot on mud-banks or at moldering



"ROT AT MOLDERING WHARVES"

wharves. The New England boy, whose ambition half a century ago was to ship on a whaler, with a boy's lay and a straight path to the quarter-deck, now goes into a city office, or makes for the West as a miner or a railroad man. The whale bids fair to become as extinct as the dodo, and the whaleman is already as rare as the buffalo.

With the extension of the fishing-grounds to the

Pacific began the really great days of the whale fishery. Then, from such a port as Nantucket or New Bedford a vessel would set out, to be gone three years, carrying with her the dearest hopes and ambitions of all the inhabitants. Perhaps there would be no house without some special interest in her cruise. Tradesmen of a dozen sorts supplied stores on shares. Ambitious boys of the best families sought places before the mast, for there was then no higher goal for youthful ambition than command of a whaler. Not infrequently a captain would go direct from the marriage altar to his ship, taking a young bride off on a honeymoon of three years at sea. Of course the home conditions created by this almost universal masculine employment were curious. The whaling towns were populated by women, children, and old men. The talk of the street was of big catches and the prices of oil and bone. The conversation in the shaded parlors, where sea-shells, coral, and the trophies of Pacific cruises were the chief ornaments, was of the distant husbands and sons, the perils they braved, and when they might be expected home. The solid, square houses the whalemen built, stoutly timbered as though themselves ships, faced the ocean, and bore on their ridge-pole a railed platform called the bridge, whence the watchers could look far out to sea, scanning the horizon for the expected ship. Lucky were they if she came into the harbor without half-masted flag or other sign of disaster. The profits of the calling in its best days were great. The best New London record is that of the "Pioneer," made in an eighteen-months' cruise in 1864-5. She brought back 1391 barrels of oil and 22,650 pounds of bone, all valued at $150,060. The "Envoy," of New Bedford, after being condemned as unseaworthy, was fitted out in 1847 at a cost of $8000, and sent out on a

final cruise. She found oil and bone to the value of $132,450; and reaching San Francisco in the flush times, was sold for $6000. As an offset to these records, is the legend of the Nantucket captain who appeared off the harbor's mouth after a cruise of three years. "What luck, cap'n?" asked the first to board. "Well, I got nary a barrel of oil and nary a pound of bone; but I had a *mighty good sail.*"

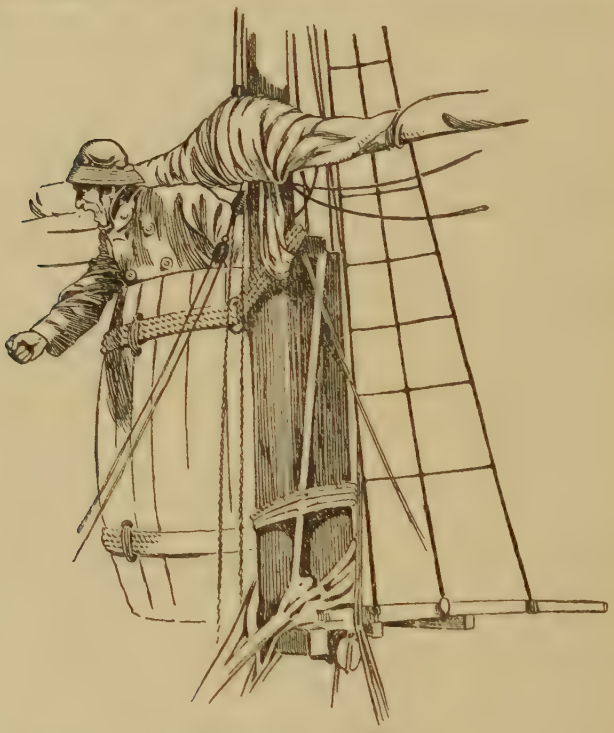
When the bar was crossed and the ship fairly in blue water, work began. Rudyard Kipling has a characteristic story, "How the Ship Found Herself," telling how each bolt and plate, each nut, screw-thread, brace, and rivet in one of those iron tanks we now call ships adjusts itself to its work on the first voyage. On the whaler the crew had to find itself, to readjust its relations, come to know its constituent parts, and learn the ways of its superiors. Sometimes a ship was manned by men who had grown up together and who had served often on the same craft; but as a rule the men of the forecastle were a rough and vagrant lot; capable seamen, indeed, but of the adventurous and irresponsible sort, for service before the mast on a whaler was not eagerly sought by the men of the merchant service. For a time Indians were plenty, and their fine physique and racial traits made them skillful harpooners. As they became scarce, negroes began to appear among the whalemen, with now and then a Lascar, a South Sea Islander, Portuguese, and Hawaiians. The alert New Englanders, trained to the life of the sea, seldom lingered long in the forecastle, but quickly made their way to the posts of command. There they were despots, for nowhere was the discipline more severe than on whalemen. The rule was a word and a blow—and the word was commonly a curse. The ship was out for a five-years' cruise, perhaps, and the captain

knew that the safety of all depended upon unquestioning obedience to his authority. Once in a while even the cowed crew would revolt, and infrequent stories of mutiny and murder appear in the record of the whale trade. The whaler, like a man-of-war, carried a larger crew than was necessary for the work of navigation, and it was necessary to devise work to keep the men employed. As a result, the ships were kept cleaner than any others in the merchant service, even though the work of trying out the blubber was necessarily productive of smoke, soot, and grease.

As a rule the voyage to the Pacific whaling waters was round Cape Horn, though occasionally a vessel made its way to the eastward and rounded the Cape of Good Hope. Almost always the world was circumnavigated before return. In early days the Pacific whalers found their game in plenty along the coast of Chili; but in time they were forced to push further and further north until the Japan Sea and Bering Sea became the favorite fishing places.

The whale was usually first sighted by the lookout in the crow's nest. A warm-blooded animal, breathing with lungs, and not with gills, like a fish, the whale is obliged to come to the surface of the water periodically to breathe. As he does so he exhales the air from his lungs through blow-holes or spiracles at the top of his head; and this warm, moist air, coming thus from his lungs into the cool air, condenses, forming a jet of vapor looking like a fountain, though there is, in fact, no spout of water. "There she blows! B-l-o-o-o-ws! Blo-o-ows!" cries the lookout at this spectacle. All is activity at once on deck, the captain calling to the lookout for the direction and character of the "pod" or school. The sperm whale throws his spout forward at an angle, in-

stead of perpendicularly into the air, and hence is easily distinguished from right whales at a distance. The ship is then headed toward the game, coming to about a mile away. As the whale, unless alarmed, seldom swims more than two and a half miles an hour, and usually



"THERE SHE BLOWS"

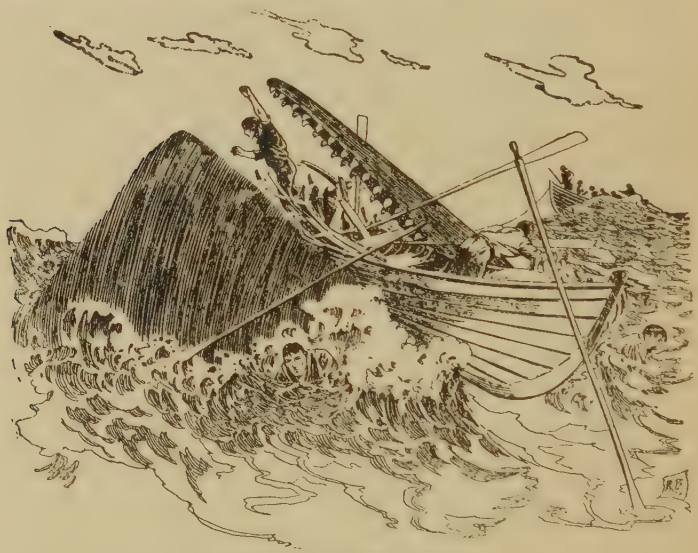
stays below only about forty-five minutes at a time, there is little difficulty in overhauling him. Then the boats are launched, the captain and a sufficient number of men staying with the ship.

In approaching the whale, every effort is made to

come up to him at the point of least danger. This point is determined partly by the lines of the whale's vision, partly by his methods of defense. The right whale can only see dead ahead, and his one weapon is his tail, which gigantic fin, weighing several tons and measuring sometimes twenty feet across the tips of the flukes, he swings with irresistible force and all the agility of a fencer at sword-play. He, therefore, is attacked from the side, well toward his jaws. The sperm whale, however, is dangerous at both ends. His tail, though less elastic than that of the right whale, can deal a prodigious up-and-down blow, while his gigantic jaws, well garnished with sharp teeth, and capacious gullet, that readily could gulp down a man, are his chief terrors. His eyes, too, set obliquely, enable him to command the sea at all points save dead ahead, and it is accordingly from this point that the fishermen approach him. But however stealthily they move, the opportunities for disappointment are many. Big as he is, the whale is not sluggish. In an instant he may sink bodily from sight; or, throwing his flukes high in air, "sound," to be seen no more; or, casting himself bodily on the boat, blot it out of existence; or, taking it in his jaws, carry it down with him. But supposing the whale to be oblivious of its approach, the boat comes as near as seems safe, and the harpooner, poised in the bow, his knee against the bracket that steadies him, lets fly his weapon; and, hit or miss, follows it up at once with a second bent onto the same line. Some harpooners were of such strength and skill that they could hurl their irons as far as four or five fathoms. In one famous case boats from an American and British ship were in pursuit of the same whale, the British boat on the inside. It is the law of the fishery that the whale belongs to the boat that first makes fast—

and many a pretty quarrel has grown out of this rule. So in this instance—seeing the danger that his rival might win the game—the American harpooner, with a prodigious effort, darted his iron clear over the rival boat and deep into the mass of blubber.

What a whale will do when struck no man can tell before the event. The boat-load of puffing, perspiring men who have pulled at full speed up to the monster may



"TAKING IT IN HIS JAWS"

suddenly find themselves confronted with a furious, vindictive, aggressive beast weighing eighty tons, and bent on grinding their boat and themselves to powder; or he may simply turn tail and run. Sometimes he sounds, going down, down, down, until all the line in the boat is exhausted, and all that other boats can bend on is gone too. Then the end is thrown over with a drag, and his

reappearance awaited. Sometimes he dashes off over the surface of the water at a speed of fifteen knots an hour, towing the boat, while the crew hope that their "Nantucket sleigh-ride" will end before they lose the ship for good. But once fast, the whalemen try to pull close alongside the monster. Then the mate takes the long, keen lance and plunges it deep into the great shuddering carcass, "churning" it up and down and seeking to pierce the heart or lungs. This is the moment of danger; for, driven mad with pain, the great beast rolls and thrashes about convulsively. If the boat clings fast to his side, it is in danger of being crushed or engulfed at any moment; if it retreats, he may recover himself and be off before the death-stroke can be delivered. In later days the explosive bomb, discharged from a distance, has done away with this peril; but in the palmy days of the whale fishery the men would rush into the circle of sea lashed into foam by those mighty fins, get close to the whale, as the boxer gets under the guard of his foe, smite him with lance and razor-edged spade until his spouts ran red, and to his fury there should succeed the calm of approaching death. Then the boats, pulled off. The command was "Pipes all"; and, placidly smoking in the presence of that mighty death, the whalers awaited their ship.

Stories of "fighting whales" fill the chronicles of our old whaling ports. There was the old bull sperm encountered by Captain Huntling off the River De La Plata, which is told us in a fascinating old book, "The Nimrod of the Sea." The first boat that made fast to this tough old warrior he speedily bit in two; and while her crew were swimming away from the wreck with all possible speed, the whale thrashed away at the pieces until all were reduced to small bits. Two other boats

meanwhile made fast to the furious animal. Wheeling about in the foam, reddened with his blood, he crushed them as a tiger would crunch its prey. All about him were men struggling in the water—twelve of them, the crews of the two demolished boats. Of the boats themselves nothing was left big enough to float a man. The ship was miles away. Three of the sailors climbed on the back of their enemy, clinging by the harpoons and ropes still fast to him, while the others swam away for dear life, thinking only of escaping that all-engulfing jaw or the blows of that murderous tail. Now came another boat from the ship, picked up the swimmers, and cautiously rescued those perched on the whale's back from their island of shuddering flesh. The spirit of the monster was still undaunted. Though six harpoons were sunk into his body and he was dragging 300 fathoms of line, he was still in fighting mood, crunching oars, kegs, and bits of boat for more enemies to demolish. All hands made for the ship, where Captain Hunting, quite as dogged and determined as his adversary, was preparing to renew the combat. Two spare boats were fitted for use, and again the whalemen started after their foe. He, for his part, remained on the battle-ground, amid the débris of his hunters' property, and awaited attack. Nay, more; he churned the water with his mighty tail and moved forward to meet his enemy, with ready jaw to grind them to bits. The captain at the boat-oar, or steering-oar, made a mighty effort and escaped the rush; then sent an explosive bomb into the whale's vitals as he surged past. Struck unto death, the great bull went into his flurry; but in dying he rolled over the captain's boat like an avalanche, destroying it as completely as he had the three others. So man won the battle, but at a heavy cost. The whaleman who chronicled this fight

says significantly: "The captain proceeded to Buenos Ayres, as much to allow his men, who were mostly green, to run away, as for the purpose of refitting, as he knew they would be useless thereafter." It was well recognized in the whaling service that men once thoroughly "gallied," or frightened, were seldom useful again; and, indeed, most of the participants in this battle did, as the captain anticipated, desert at the first port.

Curiously enough, there did not begin to be a literature of whaling until the industry went into its decadence. The old-time whalers, leading lives of continual romance and adventure, found their calling so commonplace that they noted shipwrecks, mutinies, and disaster in the struggles of the whale baldly in their logbooks, without attempt at graphic description. It is true the piety of Nantucket did result in incorporating the whale in the local hymn-book, but with what doubtful literary success these verses from the pen of Peleg Folger—himself a whaleman—will too painfully attest:

> Thou didst, O Lord, create the mighty whale,
> That wondrous monster of a mighty length;
> Vast is his head and body, vast his tail,
> Beyond conception his unmeasured strength.
>
> When the surface of the sea hath broke
> Arising from the dark abyss below,
> His breath appears a lofty stream of smoke,
> The circling waves like glittering banks of snow.
>
> And though he furiously doth us assail,
> Thou dost preserve us from all dangers free;
> He cuts our boats in pieces with his tail,
> And spills us all at once into the sea.

Stories of the whale fishery are plentiful, and of late years there has been some effort made to gather these

into a kind of popular history of the industry. The following incidents are gathered from a pamphlet, published in the early days of the nineteenth century, by Thomas Nevins, a New England whaler:

"A remarkable instance of the power which the whale possesses in its tail was exhibited within my own observation in the year 1807. On the 29th of May a whale was harpooned by an officer belonging to the 'Resolution.' It descended a considerable depth, and on its reappearance evinced an uncommon degree of irritation. It made such a display of its fins and tail that few of the crew were hardy enough to approach it. The captain, observing their timidity, called a boat and himself struck a second harpoon. Another boat immediately followed, and unfortunately advanced too far. The tail was again reared into the air in a terrific attitude. The impending blow was evident. The harpooner, who was directly underneath, leaped overboard, and the next moment the threatened stroke was impressed on the center of the boat, which it buried in the water. Happily no one was injured. The harpooner who leaped overboard escaped death by the act, the tail having struck the very spot on which he stood. The effects of the blow were astonishing—the keel was broken, the gunwales and every plank excepting two were cut through, and it was evident that the boat would have been completely divided, had not the tail struck directly upon a coil of lines. The boat was rendered useless.

"The Dutch ship 'Gort-Moolen,' commanded by Cornelius Gerard Ouwekaas, with a cargo of seven fish, was anchored in Greenland, in the year 1660. The captain, perceiving a whale ahead of his ship, beckoned his attendants and threw himself into a boat. He was the first to approach the whale, and was fortunate enough to harpoon it before the arrival of the second boat, which was on the advance. Jacques Vienkes, who had the direction of it, joined his captain immediately afterward, and prepared to make a second attack on the fish when it should remount to the surface. At the moment of its ascension, the boat of Vienkes, happening, unfortunately, to be perpendicularly above it, was so suddenly and forcibly lifted up by a stroke of the head of the whale that it was dashed to pieces before the

harpooner could discharge his weapon. Vienkes flew along with the pieces of the boat, and fell upon the back of the animal. This intrepid seaman, who still retained his weapon in his grasp, harpooned the whale on which he stood; and by means of the harpoon and the line, which he never abandoned, he steadied himself firmly upon the fish, notwithstanding his hazardous situation, and regardless of a considerable wound that he received in his leg in his fall along with the fragments of the boat. All the efforts of the other boats to approach the whale and deliver the harpooner were futile. The captain, not seeing any other method of saving his unfortunate companion, who was in some way entangled with the line, called him to cut it with his knife and betake himself to swimming. Vienkes, embarrassed and disconcerted as he was, tried in vain to follow this council. His knife was in the pocket of his drawers, and being unable to support himself with one hand, he could not get it out. The whale, meanwhile, continued advancing along the surface of the water with great rapidity, but fortunately never attempted to dive. While his comrades despaired of his life, the harpoon by which he held at length disengaged itself from the body of the whale. Vienkes, being thus liberated, did not fail to take advantage of this circumstance. He cast himself into the sea, and by swimming endeavored to regain the boats, which continued the pursuit of the whale. When his shipmates perceived him struggling with the waves, they redoubled their exertions. They reached him just as his strength was exhausted, and had the happiness of rescuing this adventurous harpooner from his perilous situation.

"Captain Lyons, of the 'Raith,' of Leith, while prosecuting the whale fishery on the Labrador coast, in the season of 1802, discovered a large whale at a short distance from the ship. Four boats were dispatched in pursuit, and two of them succeeded in approaching it so closely together that two harpoons were struck at the same moment. The fish descended a few fathoms in the direction of another of the boats, which was on the advance, rose accidentally beneath it, struck it with his head, and threw the boat, men, and apparatus about fifteen feet in the air. It was inverted by the stroke, and fell into the water with its keel upward. All the people were picked up alive by the fourth boat,

which was just at hand, excepting one man, who, having got entangled in the boat, fell beneath it and was unfortunately drowned. The fish was soon afterward killed.

"In 1822 two boats belonging to the ship 'Baffin' went in pursuit of a whale. John Carr was harpooner and commander of them. The whale they pursued led them into a vast shoal of his own species. They were so numerous that their blowing was incessant, and they believed that they did not see fewer than a hundred. Fearful of alarming them without striking any, they remained a while motionless. At last one rose near Carr's boat, and he approached and, fatally for himself, harpooned it. When he struck, the fish was approaching the boat; and, passing very rapidly, jerked the line out of its place over the stern and threw it upon the gunwale. Its pressure in this unfavorable position so careened the boat that the side was pulled under water and it began to fill. In this emergency Carr, who was a brave, active man, seized the line, and endeavored to release the boat by restoring it to its place; but by some circumstance which was never accounted for, a turn of the line flew over his arm, dragged him overboard in an instant, and drew him under the water, never more to rise. So sudden was the accident that only one man, who was watching him, saw what had happened; so that when the boat righted, which it immediately did, though half full of water, the whole crew, on looking round, inquired what had become of Carr. It is impossible to imagine a death more awfully sudden and unexpected. The invisible bullet could not have effected more instantaneous destruction. The velocity of the whale at its first descent is from thirteen to fifteen feet per second. Now, as this unfortunate man was adjusting the line at the water's very edge, where it must have been perfectly tight, owing to its obstruction in running out of the boat, the interval between the fastening of the line about him and his disappearance could not have exceeded the third part of a second of time, for in one second only he must have been dragged ten or twelve feet deep. Indeed, he had not time for the least exclamation; and the person who saw his removal observed that it was so exceeding quick that, though his eye was upon him at the moment, he could scarcely distinguish his figure as he disappeared.

"As soon as the crew recovered from their consternation, they applied themselves to the needful attention which the lines required. A second harpoon was struck from the accompanying boat, on the rising of the whale to the surface, and some lances were applied; but this melancholy occurrence had cast such a damp on all present that they became timid and inactive in their subsequent duties. The whale, when nearly exhausted, was allowed to remain some minutes unmolested, till, having recovered some degree of energy, it made a violent effort and tore itself away from the harpoons. The exertions of the crews thus proved fruitless, and were attended with serious loss.

"A harpooner belonging to the 'Henrietta,' of Whitby, when engaged in lancing a whale into which he had previously struck a harpoon, incautiously cast a little line under his feet that he had just hauled into the boat, after it had been drawn out by the fish. A painful stroke of his lance induced the whale to dart suddenly downward. His line began to run out from under his feet, and in an instant caught him by a turn round his body. He had but just time to cry out, "Clear away the line! Oh, dear!" when he was almost cut asunder, dragged overboard, and never seen afterward. The line was cut at that moment, but without avail. The fish descended to a considerable depth and died, from whence it was drawn to the surface by the lines connected with it and secured."

Whaling has almost ceased to have a place in the long list of our national industries. Its implements and the relics of old-time cruises fill niches in museums as memorials of a practically extinct calling. Along the wharves of New Bedford and New London a few old brigs lie rotting, but so effective have been the ravages of time that scarcely any of the once great fleet survive even in this invalid condition. The whales have been driven far into the Arctic regions, whither a few whalers employing the modern and unsportsmanlike devices of steam and explosives, follow them for a scanty profit. But the glory of the whale fishery is gone, leaving hardly

a record behind it. In its time it employed thousands of stout sailors; it furnished the navy with the material that made that branch of our armed service the pride and glory of the nation. It explored unknown seas and carried the flag to undiscovered lands. Was not an Austrian exploring expedition interrupted as it was about to take possession of land in the Antarctic in the name of Austria by encountering an American whaler, trim and trig, lying placidly at anchor in a harbor where the Austrian thought no man had ever been? It built up towns in New England that half a century of lethargy has been unable to kill. And so if its brigs—and its men—now molder, if its records are scanty and its history unwritten, still Americans must ever regard the whale fishery as one of the chief factors in the building of the nation—one of the most admirable chapters in our national story.

CHAPTER V

THE PRIVATEERS — PART TAKEN BY MERCHANT SAILORS IN BUILDING UP THE PRIVATEERING SYSTEM — LAWLESS STATE OF THE HIGH SEAS — METHOD OF DISTRIBUTING PRIVATEERING PROFITS — PICTURESQUE FEATURES OF THE CALLING — THE GENTLEMEN SAILORS — EFFECT ON THE REVOLUTIONARY ARMY — PERILS OF PRIVATEERING — THE OLD JERSEY PRISON SHIP — EXTENT OF PRIVATEERING — EFFECT ON AMERICAN MARINE ARCHITECTURE — SOME FAMOUS PRIVATEERS — THE "CHASSEUR," THE "PRINCE DE NEUFCHÁTEL," THE "MAMMOTH"—THE SYSTEM OF CONVOYS AND THE "RUNNING SHIPS" — A TYPICAL PRIVATEERS' BATTLE — THE "GENERAL ARMSTRONG" AT FAYAL— SUMMARY OF THE WORK OF THE PRIVATEERS.

IN the early days of a new community the citizen, be he never so peaceful, is compelled, perforce, to take on the ways and the trappings of the fighting man. The pioneer is half hunter, half scout. The farmer on the outposts of civilization must be more than half a soldier; the cowboy or ranchman on our southwest frontier goes about a walking arsenal, ready at all times to take the laws into his own hands, and scorning to call on sheriffs or other peace officers for protection against personal injury. And while the original purpose of this militant, even defiant, attitude is self-protection, those who are long compelled to maintain it conceive a contempt for the law, which they find inadequate to guard them, and not infrequently degenerate into bandits.

It is hardly too much to say that the nineteenth century was already well into its second quarter before there was a semblance of recognized law upon the high seas.

Pirates and buccaneers, privateers, and the naval vessels of the times that were little more than pirates, made the lot of the merchant sailor of the seventeenth and eighteenth centuries a precarious one. Wars were constant, declared on the flimsiest pretexts and with scant notice; so that the sailor putting out from port in a time of universal peace could feel no certainty that the first foreign vessel he met might not capture him as spoil of some war of which he had no knowledge. Accordingly, sailors learned to defend themselves, and the ship's armory was as necessary and vastly better stocked than the ship's medicine case. To point a carronade became as needful an accomplishment as to box the compass; and he was no A. B. who did not know how to swing a cutlass.

Out of such conditions, and out of the wars which the Napoleonic plague forced upon the world, sprung the practise of privateering; and while it is the purpose of this book to tell the story of the American merchant sailor only, it could not be complete without some account, however brief, of the American privateersman. For, indeed, the two were one throughout a considerable period of our maritime history, the sailor turning privateersman or the privateersman sailor as political or trade conditions demanded. In our colonial times, and in the earlier days of the nation, to be a famous privateersman, or to have had a hand in fitting out a successful privateer, was no mean passport to fame and fortune. Some of the names most eminent in the history of our country appear in connection with the outfitting or command of privateers; and not a few of the oldest fortunes of New England had their origin in this form of legalized piracy. And, after all, it is the need of the times that fixes the morality of an act. To-day privateering is

dead; not by any formal agreement, for the United States, at the Congress of Paris, refused to agree to its outlawry; but in our war with Spain no recourse was had to letters of marque by either combatant, and it seems unlikely that in any future war between civilized nations either party will court the contempt of the world by going back to the old custom of chartering banditti to steal the property of private citizens of the hostile nation if found at sea. Private property on shore has long been respected by the armies of Christendom, and why its presence in a ship rather than in a cart makes it a fit object of plunder baffles the understanding. Perhaps in time the kindred custom of awarding prize money to naval officers, which makes of them a species of privateers, and pays them for capturing a helpless merchant ship, while an army officer gets nothing for taking the most powerful fort, may likewise be set aside as a relic of medieval warfare.

In its earliest days, of course, privateering was the weapon of a nation weak at sea against one with a large navy. So when the colonies threw down the gage of battle to Great Britain, almost the first act of the Revolutionary government was to authorize private owners to fit out armed ships to prey on British commerce. Some of the shipowners of New England had enjoyed some experience of the profits of this peculiar industry in the Seven Years' War, when quite a number of colonial privateers harried the French on the seas, and accordingly the response was prompt. In enterprises of this character the system of profit-sharing, already noted in connection with whaling, obtained. The owners took a certain share of each prize, and the remainder was divided among the officers and crew in certain fixed proportions. How great were the profits accruing to a privateersman in

a "run of luck" might be illustrated by two facts set forth by Maclay, whose "History of American Privateers" is the chief authority on the subject. He asserts that "it frequently happened that even the common sailors received as their share in one cruise, over and above their wages, one thousand dollars—a small fortune in those days for a mariner," and further that "one of the boys in the 'Ranger,' who less than a month before had left a farm, received as his share one ton of sugar, from thirty to forty gallons of fourth-proof Jamaica rum, some twenty pounds of cotton, and about the same quantity of ginger, logwood, and allspice, besides seven hundred dollars in money." To be sure, in order to enjoy gains like these, the men had to risk the perils of battle in addition to the common ones of the sea; but it is a curious fact, recognized in all branches of industry, that the mere peril of a calling does not deter men from following it, and when it promises high profit it is sure to be overcrowded. In civil life to-day the most dangerous callings are those which are, as a rule, the most ill paid.

Very speedily the privateersmen became the most prosperous and the most picturesque figures along the waterside of the Atlantic cities. While the dignified merchant or shipowner, with a third interest in the "Daredevil" or the "Flybynight," might still maintain the sober demeanor of a good citizen and a pillar of the church, despite his profits of fifty or an hundred per cent. on each cruise, the gallant sailors who came back to town with pockets full of easily-won money, and the recollection of long and dismal weeks at sea behind them, were spectacular in their rejoicings. Their money was poured out freely while it lasted; and their example stirred all the townsboys, from the best families down to the scourings of the docks, to enter the same gentlemanlike profession.

Queerly enough, in a time of universal democracy, a provision was made on many of the privateers for the young men of family who desired to follow the calling. They were called "gentlemen sailors," and, in consideration of their social standing and the fact that they were trained to arms, were granted special and unusual privileges, such as freedom from the drudgery of working the ship, better fare than the common sailors, and more comfortable quarters. Indeed, they were free of duty except when fighting was to be done, and at other times fulfilled the function of the marine guards on our modern men-of-war. This came to be a very popular calling for adventurous young men of some family influence.

It has been claimed by some writers that "the Revolution was won by the New England privateers"; and, indeed, there can be no doubt that their activity did contribute in no small degree to the outcome of that struggle. Britain was then, as now, essentially a commercial nation, and the outcry of her merchants when the ravages of American privateers drove marine insurance rates up to thirty-three per cent., and even for a time made companies refuse it altogether, was clamorous. But there was another side to the story. Privateering, like all irregular service, was demoralizing, not alone to the men engaged in it, but to the youth of the country as well. The stories of the easy life and the great profits of the privateersmen were circulated in every little town, while the revels of these sea soldiers in the water-front villages were described with picturesque embellishments throughout the land. As a result, it became hard to get young men of spirit into the patriot armies. Washington complained that when the fortunes of his army were at their lowest, when he could not get clothing for his soldiers, and the snow at Valley Forge was stained with the blood

of their unshod feet, any American shipping on a privateer was sure of a competence, while great fortunes were being made by the speculators who fitted them out. Nor was this all. Such was the attraction of the privateer's life that it drew to it seamen from every branch of the maritime calling. The fisheries and the West India trade, which had long been the chief mainstay of New England commerce, were ruined, and it seemed for a time as if the hardy race of American seamen were to degenerate into a mere body of buccaneers, operating under the protection of international law, but plunderers and spoilers nevertheless. Fortunately, the long peace which succeeded the War of 1812 gave opportunity for the naturally lawful and civilized instincts of the Americans to assert themselves, and this peril was averted.

It is, then, with no admiration for the calling, and yet with no underestimate of its value to the nation, that I recount some of the achievements of those who followed it. The periods when American privateering was important were those of the Revolution and the War of 1812. During the Civil War the loss incurred by privateers fell upon our own people, and it is curious to note how different a tone the writers on this subject adopt when discussing the ravages of the Confederate privateers and those which we let loose upon British commerce in the brave days of 1812.

A true type of the Revolutionary privateersmen was Captain Silas Talbot, of Massachusetts. He was one of the New England lads apprenticed to the sea at an early age, having been made a cabin-boy at twelve. He rose to command and acquired means in his profession, as we have seen was common among our early merchant sailors, and when the Revolution broke out was living comfortably in his own mansion in Providence. He enlisted

in Washington's army, but left it to become a privateer; and from that service he stepped to the quarter-deck of a man-of-war. This was not an uncommon line of development for the early privateersmen; and, indeed, it was not unusual to find navy officers, temporarily without commands, taking a cruise or two as privateers, until Congress should provide more ships for the regular service—a system which did not tend to make a Congress, which was niggardly at best, hasten to provide public vessels for work which was being reasonably well done at private expense. As a result of this system, we find such famous naval names as Decatur, Porter, Hopkins, Preble, Barry, and Barney also figuring in the lists of privateersmen. Talbot's first notable exploit was clearing New York harbor of several British men-of-war by the use of fire-ships. Washington, with his army, was then encamped at Harlem Heights, and the British ships were in the Hudson River menacing his flank. Talbot, in a fire-ship, well loaded with combustibles, dropped down the river and made for the biggest of the enemy's fleet, the "Asia." Though quickly discovered and made the target of the enemy's battery, he held his vessel on her course until fairly alongside of and entangled with the "Asia," when the fuses were lighted and the volcanic craft burst into roaring flames from stem to stern. So rapid was the progress of the flames that Talbot and his companions could scarcely escape with their lives from the conflagration they had themselves started, and he lay for days, badly burned and unable to see, in a little log hut on the Jersey shore. The British ships were not destroyed; but, convinced that the neighborhood was unsafe for them, they dropped down the bay; so the end sought for was attained. In 1779 Talbot was given command of the sloop "Argo," of 100 tons; "a mere

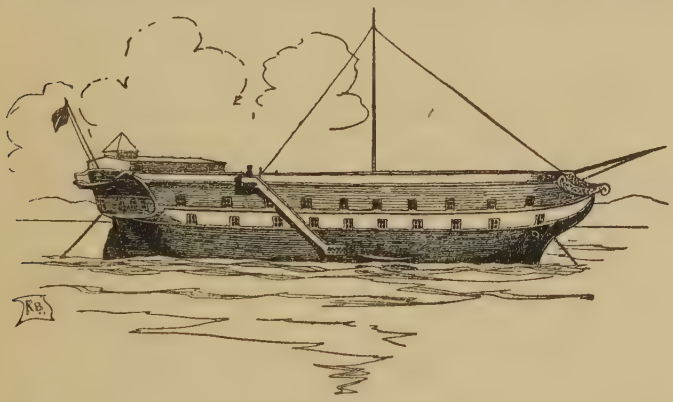
shallop, like a clumsy Albany sloop," says his biographer. Sixty men from the army, most of whom had served afloat, were given him for crew, and he set out to clear Long Island Sound of Tory privateers; for the loyalists in New York were quite as avid for spoils as the New England Revolutionists. On his second cruise he took seven prizes, including two of these privateers. One of these was a 300-ton ship, vastly superior to the "Argo" in armament and numbers, and the battle was a fierce

NEARLY EVERY MAN ON THE QUARTERDECK OF THE "ARGO" WAS KILLED OR WOUNDED.

one. Nearly every man on the quarter-deck of the "Argo" was killed or wounded; the speaking trumpet in Talbot's hand was pierced by two bullets, and a cannon-ball carried away the tail of his coat. The damages sustained in this battle were scarce repaired when another British privateer appeared, and Talbot again went

into action and took her, though of scarce half her size. In all this little "Argo"—which, by the way, belonged to Nicholas Low, of New York, an ancestor of the eminent Seth Low—took twelve prizes. Her commander was finally captured and sent first to the infamous "Jersey" prison-ship, and afterward to the Old Mill Prison in England.

The "Jersey" prison-ship was not an uncommon lot for the bold privateersman, who, when once consigned to it, found that the reward of a sea-rover was not al-



THE PRISON SHIP "JERSEY."

ways wealth and pleasure. A Massachusetts privateersman left on record a contemporary account of the sufferings of himself and his comrades in this pestilential hulk, which may well be condensed here to show some of the perils that the adventurers dared when they took to the sea.

After about one-third of the captives made with this writer had been seized and carried away to serve against their country on British war-ships, the rest were conveyed to the "Jersey," which had been originally a 74-gun ship,

then cut down to a hulk and moored at the Wallabout, at that time a lonely and deserted place on the Long Island shore, now about the center of the Brooklyn river front. "I found myself," writes the captive, "in a loathsome prison among a collection of the most wretched and disgusting objects I ever beheld in human form. Here was a motley crew covered with rags and filth, visages pallid with disease, emaciated with hunger and anxiety, and retaining hardly a trace of their original appearance. . . . The first day we could obtain no food, and seldom on the second could prisoners secure it in season for cooking it. Each prisoner received one-third as much as was allotted to a tar in the British navy. Our bill of fare was as follows: On Sunday, one pound of biscuit, one pound of pork, and half a pint of peas; Monday, one pound of biscuit, one pint of oatmeal, and two ounces of butter; Tuesday, one pound of biscuit and two pounds of salt beef, etc., etc. If this food had been of good quality and properly cooked, as we had no labor to perform, it would have kept us comfortable; but all our food appeared to be damaged. As for the pork, we were cheated out of more than half of it, and when it was obtained one would have judged from its motley hues, exhibiting the consistency and appearance of variegated fancy soap, that it was the flesh of the porpoise or sea-hog, and had been an inhabitant of the ocean rather than the sty. The peas were about as digestible as grape-shot; and the butter—had it not been for its adhesive properties to retain together the particles of biscuit that had been so riddled by the worms as to lose all their attraction of cohesion, we should not have considered it a desirable addition to our viands. The flour and oatmeal were sour, and the suet might have been nosed the whole length of our ship. Many times since, when I have

seen in the country a large kettle of potatoes and pumpkins steaming over the fire to satisfy the appetite of some farmer's swine, I have thought of our destitute and starved condition, and what a luxury we should have considered the contents of that kettle aboard the 'Jersey.' . . . About two hours before sunset orders were given the prisoners to carry all their things below; but we were permitted to remain above until we retired for the night into our unhealthy and crowded dungeons. At sunset our ears were saluted with the insulting and hateful sound from our keepers of 'Down, rebels, down,' and we were hurried below, the hatchways fastened over us, and we were left to pass the night amid the accumulated horrors of sighs and groans, of foul vapor, a nauseous and putrid atmosphere, in a stifled and almost suffocating heat. . . . When any of the prisoners had died during the night, their bodies were brought to the upper deck in the morning and placed upon the gratings. If the deceased had owned a blanket, any prisoner might sew it around the corpse; and then it was lowered, with a rope tied round the middle, down the side of the ship into a boat. Some of the prisoners were allowed to go on shore under a guard to perform the labor of interment. In a bank near the Wallabout, a hole was excavated in the sand, in which the body was put, then slightly covered. Many bodies would, in a few days after this mockery of a burial, be exposed nearly bare by the action of the elements."

Such was, indeed, the end of many of the most gallant of the Revolutionary privateersmen; but squalid and cruel as was the fate of these unfortunates, it had no effect in deterring others from seeking fortune in the same calling. In 1775-76 there were commissioned 136 vessels, with 1360 guns; in 1777, 73 vessels, with 730 guns;

in 1778, 115 privateers, with a total of 1150 guns; in 1779, 167 vessels, with 2505 guns; in 1780, 228 vessels, with 3420 guns; in 1781, 449 vessels, with 6735 (the high-water mark); and in 1782, 323 vessels, with 4845 guns. Moreover, the vessels grew in size and efficiency, until toward the latter end of the war they were in fact well-equipped war-vessels, ready to give a good account of themselves in a fight with a British frigate, or even to engage a shore battery and cut out prizes from a hostile harbor. It is, in fact, a striking evidence of the gallantry and the patriotism of the privateersmen that they did not seek to evade battle with the enemy's armed forces. Their business was, of course, to earn profits for the merchants who had fitted them out, and profits were most easily earned by preying upon inferior or defenseless vessels. But the spirit of the war was strong upon many of them, and it is not too much to say that the privateers were handled as gallantly and accepted unfavorable odds in battle as readily as could any men-of-war. Their ravages upon British commerce plunged all commercial England into woe. The war had hardly proceeded two years when it was formally declared in the House of Commons that the losses to American privateers amounted to seven hundred and thirty-three ships, of a value of over $11,000,000. Mr. Maclay estimates from this that "our amateur man-of-war's men averaged more than four prizes each," while some took twenty and one ship twenty-eight in a single cruise. Nearly eleven hundred prisoners were taken with the captured ships. While there are no complete figures for the whole period of the war obtainable, it is not to be believed that quite so high a record was maintained, for dread of privateers soon drove British shipping into their harbors, whence they put forth, if at all, under the pro-

tection of naval convoys. Nevertheless, the number of captures must have continued great for some years; for, as is shown by the foregoing figures, the spoils were sufficiently attractive to cause a steady increase in the number of privateers until the last year of the war.

There followed dull times for the privateersmen. Most of them returned to their ordinary avocations of sea or shore—became peaceful sailors, or fishermen, or ship-builders, or farmers once again. But in so great a body of men who had lived sword in hand for years, and had fattened on the spoils of the commerce of a great nation, it was inevitable that there should be many utterly unable to return to the humdrum life of honest industry. Many drifted down to that region of romance and outlawry, dear to the heart of the romantic boy, the Spanish Main, and there, as pirates in a small way and as buccaneers, pursued the predatory life. For a time the war which sprung up between England and France seemed to promise these turbulent spirits congenial and lawful occupation. France, it will be remembered, sent the Citizen Genet over to the United States to take advantage of the supposed gratitude of the American people for aid during the Revolution to fit out privateers and to make our ports bases of operation against the British. It must be admitted that Genet would have had an easy task, had he had but the people to reckon with. He found privateering veterans by the thousand eager to take up that manner of life once more. In all the seacoast towns were merchants quite as ready for profitable ventures in privateering under the French flag as under their own, provided they could be assured of immunity from governmental prosecution. And, finally, he found the masses of the people fired with enthusiasm for the principles of the French Revolution, and eager

to show sympathy for a people who, like themselves, had thrown off the yoke of kings. The few privateers that Minister Genet fitted out before President Washington became aroused to his infraction of the principles of neutrality were quickly manned, and began sending in prizes almost before they were out of sight of the American shore. The crisis came, however, when one of these ships actually captured a British merchantman in Delaware Bay. Then the administration made a vigorous protest, demanded the release of the vessels taken, arrested two American sailors who had shipped on the privateer, and broke up at once the whole project of the Frenchman. It was a critical moment in our national history, for, between France and England abroad, the Federalist and Republican at home, the President had to steer a course beset with reefs. The maritime community was not greatly in sympathy with his suppression of the French minister's plans, and with some reason, for British privateers had been molesting our vessels all along our coasts and distant waters. It was a time when no merchant could tell whether the stout ship he had sent out was even then discharging her cargo at her destination, or tied up as a prize in some British port. We Americans are apt to regard with some pride Washington's stout adherence to the most rigid letter of the law of neutrality in those troublous times, and our historians have been at some pains to impress us with the impropriety of Jefferson's scarcely concealed liking for France; but the fact is that no violation of the neutrality law which Genet sought was more glaring than those continually committed by Great Britain, and which our Government failed to resent. In time France, moved partly by pique because of our refusal to aid her, and partly by contempt for a nation that failed to protect its

ships against British aggression, began itself to prey upon our commerce. Then the state of our maritime trade was a dismal one. Our ships were the prey of both France and England; but since we were neutral, the right of fitting out privateers of our own was denied our shipping interests. We were ground between the upper and nether millstones.

But, as so often happens, persecution bred the spirit and created the weapons for its correction. When it was found that every American vessel was the possible spoil of any French or English cruiser or privateer that she might encounter; that our Government was impotent to protect its seamen; that neither our neutrality rights nor the neutrality of ports in which our vessels lay commanded the respect of the two great belligerents, the Yankee shipping merchants set about meeting the situation as best they might. They did not give up their effort to secure the world's trade—that was never an American method of procedure. But they built their ships so as to be able to run away from anything they might meet; and they manned and armed them so as to fight if fighting became necessary. So the American merchantman became a long, sharp, clipper-built craft that could show her heels to almost anything afloat; moderate of draft, so that she could run into lagoons and bays where no warship could follow. They mounted from four to twelve guns, and carried an armory of rifles and cutlasses which their men were well trained to handle. Accordingly, when the depredations of foreign nations became such as could not longer be borne, and after President Jefferson's plan of punishing Europe for interfering with our commerce by laying an embargo which kept our ships at home had failed, war was declared with England; and from every port on the Atlantic seaboard privateers—

ships as fit for their purpose as though specially built for it—swarmed forth seeking revenge and spoils. Their very names told of the reasons of the American merchantmen for complaint—the reasons why they rejoiced that they were now to have their turn. There were the "Orders-in-Council," the "Right-of-Search," the "Fair-trader," the "Revenge." Some were mere pilot-boats, with a Long Tom amidships and a crew of sixty men; others were vessels of 300 tons, with an armament and crew like a man-of-war. Before the middle of July, 1812, sixty-five such privateers had sailed, and the British merchantmen were scudding for cover like a covey of frightened quail.

The War of 1812 was won, so far as it was won at all, on the ocean. In the land operations from the very beginning the Americans came off second best; and the one battle of importance in which they were the victors —the battle of New Orleans—was without influence upon the result, having been fought after the treaty of peace had been signed at Ghent. But on the ocean the honors were all taken by the Americans, and no small share of these honors fell to the private armed navy of privateers. As the war progressed these vessels became in type more like the regular sloop-of-war, for the earlier craft, while useful before the British began sending out their merchantmen under convoy, proved to be too small to fight and too light to escape destruction from one well-aimed broadside. The privateer of 1813 was usually about 115 to 120 feet long on the spar-deck, 31 feet beam, and rigged as a brig or ship. They were always fast sailers, and notable for sailing close to the wind. While armed to fight, if need be, that was not their purpose, and a privateersman who gained the reputation among owners of being a fighting captain was likely to

go long without a command. Accordingly, these vessels were lightly built and over-rigged (according to the ideas of British naval construction), for speed was the great desideratum. They were at once the admiration and the envy of the British, who imitated their models without success and tried to utilize them for cruisers when captured, but destroyed their sailing qualities by altering their rig and strengthening their hulls at the expense of lightness and symmetry.

I have already referred to Michael Scott's famous story of sea life, "Tom Cringle's Log," which, though in form a work of fiction, contains so many accounts of actual happenings, and expresses so fully the ideas of the British naval officer of that time, that it may well be quoted in a work of historical character. Tom Cringle, after detailing with a lively description the capture of a Yankee privateer, says that she was assigned to him for his next command. He had seen her under weigh, had admired her trim model, her tapering spars, her taut cordage, and the swiftness with which she came about and reached to windward. He thus describes the change the British outfitters made in her:

"When I had last seen her she was the most beautiful little craft, both in hull and rigging, that ever delighted the eyes of a sailor; but the dock-yard riggers and carpenters had fairly bedeviled her—at least so far as appearances went. First, they had replaced the light rail on her gunwale by heavy, solid bulwarks four feet high, surmounted by hammock nettings at least another foot; so that the symmetrical little vessel, that formerly floated on the foam light as a seagull, now looked like a clumsy, dish-shaped Dutch dogger. Her long, slender wands of masts, which used to swing about as if there were neither shrouds nor stays to support them, were now as taut and stiff as church-steeples, with four heavy shrouds of a side, and stays, and back-stays, and the devil knows what all."

It is a curious fact that no nation ever succeeded in imitating these craft. The French went into privateering without in the least disturbing the equanimity of the British shipowner; but the day the Yankee privateers took the sea a cry went up from the docks and warehouses of Liverpool and London that reverberated among the arches of Westminster Hall. The newspapers were loud in their attacks upon the admiralty authorities. Said the *Morning Chronicle* in 1814:

"That the whole coast of Ireland, from Wexford round by Cape Clear to Carrickfergus, should have been for above a month under the unresisted domination of a few petty fly-by-nights from the blockaded ports of the United States is a grievance equally intolerable and disgraceful."

This wail may have resulted from the pleasantry of one Captain Boyle, of the privateer "Chasseur," a famous Baltimore clipper, mounting sixteen guns, with a complement of one hundred officers, seamen, and marines. Captain Boyle, after exhausting, as it seemed to him, the possibilities of the West Indies for excitement and profit, took up the English channel for his favorite cruising-ground. One of the British devices of that day for the embarrassment of an enemy was what is called a "paper blockade." That is to say, when it appeared that the blockading fleet had too few vessels to make the blockade really effective by watching each port, the admiral commanding would issue a proclamation that such and such ports were in a state of blockade, and then withdraw his vessels from those ports; but still claim the right to capture any neutral vessels which he might encounter bound thither. This practise is now universally interdicted by international law, which declares that a blockade, to be binding upon neutrals, must be effective. But in those days England made her own

international law—for the sea, at any rate—and the paper blockade was one of her pet weapons. Captain Boyle satirized this practise by drawing up a formal proclamation of blockade of all the ports of Great Britain and Ireland, and sending it to Lloyds, where it was actually posted. His action was not wholly a jest, either, for he did blockade the port of St. Vincent so effectively for five days that the inhabitants sent off a pitiful appeal to Admiral Durham to send a frigate to their relief.

It was at this time, too, that the *Annual Register* recorded as "a most mortifying reflection" that, with a navy of more than one thousand ships in commission, "it was not safe for a British vessel to sail without convoy from one part of the English or Irish Channel to another." Merchants held meetings, insurance corporations and boards of trade memorialized the government on the subject; the shipowners and merchants of Glasgow, in formal resolutions, called the attention of the admiralty to the fact that "in the short space of twenty-four months above eight hundred vessels have been captured by the power whose maritime strength we have hitherto impolitically held in contempt." It was, indeed, a real blockade of the British Isles that was effected by these irregular and pigmy vessels manned by the sailors of a nation that the British had long held in high scorn. The historian Henry Adams, without attempting to give any complete list of captures made on the British coasts in 1814, cites these facts:

"The 'Siren,' a schooner of less than 200 tons, with seven guns and seventy-five men, had an engagement with His Majesty's cutter 'Landrail,' of four guns, as the cutter was crossing the Irish sea with dispatches. The 'Landrail' was captured, after a somewhat smart action, and was sent to America, but was recaptured on the way. The victory was not remarkable, but the place of capture was very significant, and it happened July 12

only a fortnight after Blakely captured the 'Reindeer' farther westward. The 'Siren' was but one of many privateers in those waters. The 'Governor Tompkins' burned fourteen vessels successively in the British Channel. The 'Young Wasp,' of Philadelphia, cruised nearly six months about the coasts of England and Spain, and in the course of West India commerce. The 'Harpy,' of Baltimore, another large vessel of some 350 tons and fourteen guns, cruised nearly three months off the coast of Ireland, in the British Channel, and in the Bay of Biscay, and returned safely to Boston filled with plunder, including, as was said, upward of £100,000 in British treasury notes and bills of exchange. The 'Leo,' a Boston schooner of about 200 tons, was famous for its exploits in these waters, but was captured at last by the frigate 'Tiber,' after a chase of about eleven hours. The 'Mammoth,' a Baltimore schooner of nearly 400 tons, was seventeen days off Cape Clear, the southernmost point of Ireland. The most mischievous of all was the 'Prince of Neufchâtel,' New York, which chose the Irish Channel as its favorite haunt, where during the summer it made ordinary coasting traffic impossible."

The vessels enumerated by Mr. Adams were by no means among the more famous of the privateers of the War of 1812; yet when we come to examine their records we find something notable or something romantic in the career of each—a fact full of suggestion of the excitement of the privateersman's life. The "Leo," for example, at this time was under command of Captain George Coggeshall, the foremost of all the privateers, and a man who so loved his calling that he wrote an excellent book about it. Under an earlier commander she made several most profitable cruises, and when purchased by Coggeshall's associates was lying in a French port. France and England were then at peace, and it may be that the French remembered the way in which we had suppressed the Citizen Genet. At any rate, they refused to let Coggeshall take his ship out of the harbor

with more than one gun—a Long Tom—aboard. Nothing daunted, he started out with this armament, to which some twenty muskets were added, on a privateering cruise in the channel, which was full of British cruisers. Even the Long Tom proved untrustworthy, so recourse was finally had to carrying the enemy by boarding; and in this way four valuable prizes were taken, of which three were sent home with prize crews. But a gale carried away the "Leo's" foremast, and she fell a prey to an English frigate which happened along untimely.

The "Mammoth" was emphatically a lucky ship. In seven weeks she took seventeen merchantmen, paying for herself several times over. Once she fought a lively battle with a British transport carrying four hundred men, but prudently drew off. True, the Government was paying a bonus of twenty-five dollars a head for prisoners; but cargoes were more valuable. Few of the privateers troubled to send in their prisoners, if they could parole and release them. In all, the "Mammoth" captured twenty-one vessels, and released on parole three hundred prisoners.

Of all the foregoing vessels, the "Prince de Neufchâtel" was the most famous. She was an hermaphrodite brig of 310 tons, mounting 17 guns. She was a "lucky" vessel, several times escaping a vastly superior force and bringing into port, for the profit of her owners, goods valued at $3,000,000, besides large quantities of specie. Her historic achievement, however, was beating off the British frigate "Endymion," off Nantucket, one dark night, after a battle concerning which a British naval historian, none too friendly to Americans, wrote: "So determined and effective a resistance did great credit to the American captain and his crew." The privateer had a prize in tow, by which, of course, her move-

ments were much hampered, for her captain was not inclined to save himself at the expense of his booty. But, more than this, she had thirty-seven prisoners aboard, while her own crew was sorely reduced by manning prizes. The night being calm, the British attempted to take the ship by boarding from small boats, for what reason does not readily appear, since the vessels were within range of each other, and the frigate's superior metal could probably have reduced the Americans to subjection. Instead, however, of opening fire with his broadside, the enemy sent out boarding parties in five boats. Their approach was detected on the American vessel, and a rapid fire with small arms and cannon opened upon them, to which they paid no attention, but pressed doggedly on. In a moment the boats surrounded the privateer—one on each bow, one on each side, and one under the stern—and the boarders began to swarm up the sides like cats. It was a bloody hand-to-hand contest that followed, in which every weapon, from cutlass and clubbed musket down to bare hands, was employed. Heavy shot, which had been piled up in readiness on deck, were thrown into the boats in an effort to sink them. Hundreds of loaded muskets were ranged along the rail, so that the firing was not interrupted to reload. Time and again the British renewed their efforts to board, but were hurled back by the American defenders. A few who succeeded in reaching the decks were cut down before they had time to profit by their brief advantage. Once only did it seem that the ship was in danger. Then the assailants, who outnumbered the Americans four to one, had reached the deck over the bows in such numbers that they were gradually driving the defenders aft. Every moment more men came swarming over the side; and as the Americans ran from all parts of the ship to

IF THEY RETREATED FARTHER HE WOULD BLOW UP THE SHIP.

meet and overpower those who had already reached the deck, new ways were opened for others to clamber aboard. The situation was critical; but was saved by Captain Ordronaux by a desperate expedient, and one which it is clear would have availed nothing had not his men known him for a man of fierce determination, ready to fulfil any desperate threat. Seizing a lighted match from one of the gunners, he ran to the hatch immediately over the magazine, and called out to his men that if they retreated farther he would blow up the ship, its defenders, and its assailants. The men rallied. They swung a cannon in board so that it commanded the deck, and swept away the invaders with a storm of grape. In a few minutes the remaining British were driven back to their boats. The battle had lasted less than half an hour when the British called for quarter, the smoke cleared away, the cries of combat ceased, and both parties were able to count their losses. The crew of the privateer had numbered thirty-seven, of whom seven were killed and twenty-four wounded. The British had advanced to the attack with a force of one hundred and twenty-eight, in five boats. Three of the boats drifted away empty, one was sunk, and one was captured. Of the attacking force not one escaped; thirty were made prisoners, many of them sorely wounded, and the rest were either killed or swept away by the tide and drowned. The privateers actually had more prisoners than they had men of their own. Some of the prisoners were kept towing in a launch at the stern, and, by way of strategy, Captain Ordronaux set two boys to playing a fife and drum and stamping about in a sequestered part of his decks as though he had a heavy force aboard. Only by sending the prisoners ashore under parole was the danger of an uprising among the captives averted.

In the end the "Prince de Neufchâtel" was captured by a British squadron, but only after a sudden squall had carried away several of her spars and made her helpless.

As the war progressed it became the custom of British merchants to send out their ships only in fleets, convoyed by one or two men-of-war, a system that, of course, could be adopted only by nations very rich in war-ships. The privateers' method of meeting this was to cruise in couples, a pair of swift, light schooners, hunting the prize together. When the convoy was encountered, both would attack, picking out each its prey. The convoys were usually made up with a man-of-war at the head of the column, and as this vessel would make sail after one of the privateers, the other would rush in at some point out of range, and cut out its prize. When the British began sending out two ships of war with each convoy, the privateers cruised in threes, and the same tactics were observed.

But the richest prizes won by the privateer were the single going ships, called "running ships," that were prepared to defend themselves, and scorned to wait for convoy. These were generally great packets trading to the Indies, whose cargoes were too valuable to be delayed until some man-of-war could be found for their protection. They were heavily armed, often, indeed, equaling a frigate in their batteries and the size of their crews. But, although to attack one of these meant a desperate fight, the Yankee privateer always welcomed the chance, for besides a valuable cargo, they were apt to carry a considerable sum in specie. The capture of one of these vessels, too, was the cause of annoyance to the enemy disproportionate to even their great value to their captors, fro they not only carried the Royal Mail, but were usually the agencies by which the dispatches of the British

general were forwarded. Mail and dispatches, alike, were promptly thrown overboard by their captors.

In the diary of a privateersman of Revolutionary days is to be found the story of the capture of an Indiaman which may well be reprinted as typical.

"As the fog cleared up, we perceived her to be a large ship under English colors, to the windward, standing athwart our starboard bow. As she came down upon

"I THINK SHE IS A HEAVY SHIP."

us, she appeared as large as a seventy-four; and we were not deceived respecting her size, for it afterwards proved that she was an old East Indiaman, of 1100 tons burden, fitted out as a letter of marque for the West India trade, mounted with thirty-two guns, and furnished with a complement of one hundred and fifty men. She was called the 'Admiral Duff,' commanded by Richard Strange, from St. Christopher and St. Eustachia, laden with sugar

and tobacco, and bound to London. I was standing near our first lieutenant, Mr. Little, who was calmly examining the enemy as she approached, with his spy-glass, when Captain Williams stepped up and asked his opinion of her. The lieutenant applied the glass to his eye again and took a deliberate look in silence, and replied: 'I think she is a heavy ship, and that we shall have some hard fighting, but of one thing I am certain, she is not a frigate; if she were, she would not keep yawing and showing her broadsides as she does; she would show nothing but her head and stern; we shall have the advantage of her, and the quicker we get alongside the better." Our captain ordered English colors to be hoisted, and the ship to be cleared for action.

"The enemy approached 'till within musket-shot of us. The two ships were so near to each other that we could distinguish the officers from the men; and I particularly noticed the captain on the gangway, a noble-looking man, having a large gold-laced cocked hat on his head, and a speaking-trumpet in his hand. Lieutenant Little possessed a powerful voice, and he was directed to hail the enemy; at the same time the quartermaster was ordered to stand ready to haul down the English flag and to hoist up the American. Our lieutenant took his station on the after part of the starboard gangway, and elevating his trumpet, exclaimed: 'Hullo. Whence come you?"

" 'From Jamaica, bound to London,' was the answer.

" 'What is the ship's name?' inquired the lieutenant.

"The 'Admiral Duff,' " was the reply.

"The English captain then thought it his turn to interrogate, and asked the name of our ship. Lieutenant Little, in order to gain time, put the trumpet to his ear, pretending not to hear the question. During the short

interval thus gained, Captain Williams called upon the gunner to ascertain how many guns could be brought to bear upon the enemy. 'Five,' was the answer. 'Then fire, and shift the colors,' were the orders. The cannons poured forth their deadly contents, and, with the first flash, the American flag took the place of the British ensign at our masthead.

"The compliment was returned in the form of a full broadside, and the action commenced. I was stationed on the edge of the quarter-deck, to sponge and load a six-pounder; this position gave me a fine opportunity to see the whole action. Broadsides were exchanged with great rapidity for nearly an hour; our fire, as we afterward ascertained, produced a terrible slaughter among the enemy, while our loss was as yet trifling. I happened to be looking for a moment toward the main deck, when a large shot came through our ship's side and killed a midshipman. At this moment a shot from one of our marines killed the man at the wheel of the enemy's ship, and, his place not being immediately supplied, she was brought alongside of us in such a manner as to bring her bowsprit directly across our forecastle. Not knowing the cause of this movement, we supposed it to be the intention of the enemy to board us. Our boarders were ordered to be ready with their pikes to resist any such attempt, while our guns on the main deck were sending death and destruction among the crew of the enemy. Their principal object now seemed to be to get liberated from us, and by cutting away some of their rigging, they were soon clear, and at the distance of a pistol shot.

"The action was then renewed, with additional fury; broadside for broadside continued with unabated vigor; at times, so near to each other that the muzzles of our guns came almost in contact, then again at such a dis-

tance as to allow of taking deliberate aim. The contest was obstinately continued by the enemy, although we could perceive that great havoc was made among them, and that it was with much difficulty that their men were compelled to remain at their quarters. A charge of grape-shot came in at one of our portholes, which dangerously wounded four or five of our men, among whom was our third lieutenant, Mr. Little, brother to the first.

"The action had now lasted about an hour and a half, and the fire from the enemy began to slacken, when we suddenly discovered that all the sails on her mainmast were enveloped in a blaze. Fire spread with amazing rapidity, and, running down the after rigging, it soon communicated with her magazine, when her whole stern was blown off, and her valuable cargo emptied into the sea. Our enemy's ship was now a complete wreck, though she still floated, and the survivors were endeavoring to save themselves in the only boat that had escaped the general destruction. The humanity of our captain urged him to make all possible exertions to save the miserable wounded and burned wretches, who were struggling for their lives in the water. The ship of the enemy was greatly our superior in size, and lay much higher out of the water Our boats had been exposed to his fire, as they were placed on spars between the fore and main-masts during the action, and had suffered considerable damage. The carpenters were ordered to repair them with the utmost expedition, and we got them out in season to take up fifty-five men, the greater part of whom had been wounded by our shot, or burned when the powder-magazine exploded. Their limbs were mutilated by all manner of wounds, while some were burned to such a degree that the skin was nearly flayed from their bodies. Our surgeon and his assistants had just completed the

task of dressing the wounds of our own crew, and then they directed their attention to the wounded of the enemy. Several of them suffered the amputation of their limbs, five of them died of their wounds, and were committed to their watery graves. From the survivors we learned that the British commander had frequently expressed a desire to come in contact with a 'Yankee frigate' during his voyage, that he might have a prize to carry to London. Poor fellow. He little thought of losing his ship and his life in an engagement with a ship so much inferior to his own—with an enemy upon whom he looked with so much contempt."

But most notable of all the battles fought by privateersmen in the War of 1812, was the defense of the brig "General Armstrong," in the harbor of Fayal, in September, 1814. This famous combat has passed into history, not only because of the gallant fight made by the privateer, but because the three British men-of-war to whom she gave battle, were on their way to cooperate with Packenham at New Orleans, and the delay due to the injuries they received, made them too late to aid in that expedition, and may have thus contributed to General Jackson's success.

The "General Armstrong" had always been a lucky craft, and her exploits in the capture of merchantmen, no less than the daring of her commander in giving battle to ships-of-war which he encountered, had won her the peculiar hate of the British navy. At the very beginning of her career, when in command of Captain Guy R. Champlin, she fought a British frigate for more than an hour, and inflicted such grave damage that the enemy was happy enough to let her slip away when the wind freshened. On another occasion she engaged a British armed ship of vastly superior strength, off the Surinam River,

and forced her to run ashore. Probably the most valuable prize taken in the war fell to her guns—the ship "Queen," with a cargo invoiced at £90,000. Indeed, such had been her audacity, and so many her successes, that the British were eager for her capture or destruction, above that of any other privateer.

In September, 1814, the "General Armstrong," now under command of Captain Samuel G. Reid, was at anchor in the harbor at Fayal, a port of Portugal, when her commander saw a British war-brig come nosing her way into the harbor. Soon after another vessel appeared, and then a third, larger than the first two, and all flying the British ensign. Captain Reid immediately began to fear for his safety. It was true that he was in a neutral port, and under the law of nations exempt from attack, but the British had never manifested that extreme respect for neutrality that they exacted of President Washingon when France tried to fit out privateers in our ports. More than once they had attacked and destroyed our vessels in neutral ports, and, indeed, it seemed that the British test of neutrality was whether the nation whose flag was thus affronted, was able or likely to resent it. Portugal was not such a nation.

All this was clear to Captain Reid, and when he saw a rapid signaling begun between the three vessels of the enemy, he felt confident that he was to be attacked. He had already discovered that the strangers were the 74-gun ship of the line "Plantagenet," the 38-gun frigate "Rota," and the 18-gun war-brig "Carnation," comprising a force against which he could not hope to win a victory. The night came on clear, with a bright moon, and as the American captain saw boats from the two smaller vessels rallying about the larger one, he got out his sweeps and began moving his vessel inshore, so as to get under

the guns of the decrepit fort, with which Portugal guarded her harbor. At this, four boats crowded with men, put out from the side of the British ship, and made for the privateer, seeing which, Reid dropped anchor and put springs on his cables, so as to keep his broadside to bear on the enemy as they approached. Then he shouted to the British, warning them to keep off, or he would fire. They paid no attention to the warning, but pressed on, when he opened a brisk fire upon them. For a time there was a lively interchange of shots, but the superior marksmanship of the Americans soon drove the enemy out of range with heavy casualties. The British retreated to their ships with a hatred for the Yankee privateer even more bitter than that which had impelled them to the lawless attack, and a fiercer determination for her destruction.

It is proper to note, that after the battle was fought, and the British commander had calmly considered the possible consequences of his violation of the neutrality laws, he attempted to make it appear that the Americans themselves were the aggressors. His plea, as made in a formal report to the admiralty, was that he had sent four boats to discover the character of the American vessel; that they, upon hailing her, had been fired upon and suffered severe loss, and that accordingly he felt that the affront to the British flag could only be expiated by the destruction of the vessel. The explanation was not even plausible, for the British commander, elsewhere in his report, acknowledged that he was perfectly informed as to the identity of the vessel, and even had this not been the case, it is not customary to send four boats heavily laden with armed men, merely to dicover the character of a ship in a friendly port.

The withdrawal of the British boats gave Captain Reid

time to complete the removal of his vessel to a point underneath the guns of the Portugese battery. This gave him a position better fitted for defense, although his hope that the Portuguese would defend the neutrality of their port, was destined to disappointment, for not a shot was fired from the battery.

Toward midnight the attack was resumed, and by this time the firing within the harbor had awakened the peo-

"STRIVING TO REACH HER DECKS AT EVERY POINT"

ple of the town, who crowded down to the shore to see the battle. The British, in explanation of the reverse which they suffered, declared that all the Americans in Fayal armed themselves, and from the shore supplemented the fire from the "General Armstrong." Captain Reid, however, makes no reference to this assistance. In all, some four hundred men joined in the second at-

tack. Twelve boats were in line, most of them with a howitzer mounted in the bow. The Americans used their artillery on these craft as they approached, and inflicted great damage before the enemy were in a position to board. The British vessels, though within easy gun-fire, dared not use their heavy cannon, lest they should injure their own men, and furthermore, for fear that the shot would fall into the town. The midnight struggle was a desperate one, the enemy fairly surrounding the "General Armstrong," and striving to reach her decks at every point. But though greatly outnumbered, the defenders were able to maintain their position, and not a boarder succeeded in reaching the decks. The struggle continued for nearly three-quarters of an hour, after which the British again drew off. Two boats filled with dead and dying men, were captured by the Americans, the unhurt survivors leaping overboard and swimming ashore. The British report showed, that in these two attacks there were about one hundred and forty of the enemy killed,and one hundred and thirty wounded. The Americans had lost only two killed and seven wounded, but the ship was left in no condition for future defense. Many of the guns were dismounted, and the Long Tom, which had been the mainstay of the defense, was capsized. Captain Reid and his officers worked with the utmost energy through the night, trying to fit the vessel for a renewal of the combat in the morning, but at three o'clock he was called ashore by a note from the American consul. Here he was informed that the Portuguese Governor had made a personal appeal to the British commander for a cessation of the attack, but that it had been refused, with the statement that the vessel would be destroyed by cannon-fire from the British ships in the morning. Against an attack of this sort it was, of course, futile for the "General

Armstrong" to attempt to offer defense, and accordingly Captain Reid landed his men with their personal effects, and soon after the British began fire in the morning, scuttled the ship and abandoned her. He led his men into the interior, seized on an abandoned convent, and fortifying it, prepared to resist capture. No attempt, however, was made to pursue him, the British commander contenting himself with the destruction of the privateer. For nearly a week the British ships were delayed in the harbor, burying their dead and making repairs. When they reached New Orleans, the army which they had been sent to reenforce, had met Jackson on the plains of Chalmette, and had been defeated. The price paid for the "General Armstrong" was, perhaps, the heaviest of the war. The British commander seemed to appreciate this fact, for every effort was made to keep the news of the battle from becoming known in England, and when complete concealment was no longer possible, an official report was given out that minimized the British loss, magnified the number of the Americans, and totally misstated the facts bearing on the violation of the neutrality of the Portuguese port. Captain Reid, however, was made a hero by his countrymen. A Portuguese ship took him and his crew to Amelia Island, whence they made their way to New York. Poughkeepsie voted him a sword. Richmond citizens gave him a complimentary dinner, at which were drunk such toasts as: "The private cruisers of the United States—whose intrepidity has pierced the enemy's channels and bearded the lion in his den"; "Neutral Ports—whenever the tyrants of the ocean dare to invade these sanctuaries, may they meet with an 'Essex' and an 'Armstrong' "; and "Captain Reid —his valor has shed a blaze of renown upon the character of our seamen, and won for himself a laurel of eternal

bloom." The newspapers of the times rang with eulogies of Reid, and anecdotes of his seafaring experiences. But after all, as McMaster finely says in his history: "The finest compliment of all was the effort made in England to keep the details of the battle from the public, and the false report of the British commander."

In finally estimating the effect upon the American fortunes in the War of 1812, of the privateers and their work, many factors must be taken into consideration. At first sight it would seem that a system which gave the services of five hundred ships and their crews to the task of annoying the British, and inflicting damage upon their commerce without cost to the American Government, must be wholly advantageous. We have already seen the losses inflicted upon British commerce by our privateers reflected in the rapidly increasing cost of marine insurance. While the statistics in the possession of the Government are not complete, they show that twenty-five hundred vessels at least were captured during the War of 1812 by these privately-owned cruisers, and there can be no shadow of a doubt that the loss inflicted upon British merchants, and the constant state of apprehension for the safety of their vessels in which they were kept, very materially aided in extending among them a willingness to see peace made on almost any terms.

But this is the other side of the story: The prime purpose of the privateer was to make money for its owners, its officers, and its crew. The whole design and spirit of the calling was mercenary. It inflicted damage on the enemy, but only incidentally to earning dividends for its participants. If Government cruisers had captured twenty-five hundred British vessels, those vessels would have been lost to the enemy forever. But the privateer, seeking gains, tried to send them into port, however dangerous

such a voyage might be, and accordingly, rather more than a third of them were recaptured by the enemy. We may note here in passing, that one reason why the so-called Confederate privateers during our own Civil War, did an amount of damage so disproportionate to their numbers, was that they were not, in fact, privateers at all. They were commissioned by the Confederate Government to inflict the greatest possible amount of injury upon northern commerce, and accordingly, when Semmes or Maffitt captured a United States vessel, he burned it on the spot. There was no question of profit involved in the service of the "Alabama," the "Florida," or the "Shenandoah," and they have been called privateers in our histories, mainly because Northern writers have been loath to concede, to what they called a rebel government, the right to equip and commission regular men-of-war.

But to return to the American privateers of 1812. While, as I have pointed out, there were many instances of enormous gains being made, it is probable that the business as a whole, like all gambling businesses as a whole, was not profitable. Some ships made lucky voyages, but there is on record in the Navy Department a list of three hundred vessels that took not one single prize in the whole year of 1813. The records of Congress show that, as a whole, the business was not remunerative, because there were constant appeals from people interested. In response to this importunity, Congress at one time paid a bounty of twenty-five dollars a head for all prisoners taken. At other times it reduced the import duties on cargoes captured and landed by privateers. Indeed, it is estimated by a careful student, that the losses to the Government in the way of direct expenditures and remission of revenues through the privateering system, amounted to a sum sufficient to have kept twenty sloops-of

war on the sea throughout the period of hostilities, and there is little doubt that such vessels could have actually accomplished more in the direction of harassing the enemy than the privateers. A very grave objection to the privateering system, however, was the fact that the promise of profit to sailors engaged in it was so great, that all adventurous men flocked into the service, so that it became almost impossible to maintain our army or to man our ships. I have already quoted George Washington's objections to the practise during the Revolution. During the War of 1812, some of our best frigates were compelled to sail half manned, while it is even declared that the loss of the "Chesapeake" to the "Shannon" was largely due to the fact that her crew were discontented and preparing, as their time of service was nearly up, to quit the Government service for privateering. In a history of Marblehead, one of the famous old seafaring towns of Massachusetts, it is declared that of nine hundred men of that town who took part in the war, fifty-seven served in the army, one hundred and twenty entered the navy, while seven hundred and twenty-six shipped on the privateers. These figures afford a fair indication of the way in which the regular branches of the service suffered by the competition of the system of legalized piracy.

CHAPTER VI

THE ARCTIC TRAGEDY—AMERICAN SAILORS IN THE FROZEN DEEP—THE SEARCH FOR SIR JOHN FRANKLIN—REASONS FOR SEEKING THE NORTH POLE—TESTIMONY OF SCIENTISTS AND EXPLORERS—PERTINACITY OF POLAR VOYAGERS—DR. KANE AND DR. HAYES—CHARLES F. HALL, JOURNALIST AND EXPLORER—MIRACULOUS ESCAPE OF HIS PARTY—THE ILL-FATED "JEANNETTE" EXPEDITION—SUFFERING AND DEATH OF DE LONG AND HIS COMPANIONS—A PITIFUL DIARY—THE GREELY EXPEDITION—ITS CAREFUL PLAN AND COMPLETE DISASTER—WELLMAN AND BALDWIN—PEARY WINS IN THE RACE FOR THE POLE.

A CHAPTER in the story of the American sailor, which begun full an hundred years ago, was completed in 1909 by the discovery of the North Pole by Captain Peary of the United States Navy. This was the culmination not alone of a lifetime in the Arctic by the devoted successful explorer, but of a long record of gallant effort by less fortunate Americans. It is a story of calm daring, of indomitable pertinacity, of patient endurance of the most cruel suffering, of heroic invitation to and acceptance of death. The men of the merchant service played their full part in this record of gallantry.

In the private office of the President of the United States at Washington, stands a massive oaken desk. It has been a passive factor in the making of history, for at it have eight presidents sat, and papers involving almost the life of the nation, have received the executive signature upon its smooth surface. The very timbers of which

it is built were concerned in the making of history of another sort, for they were part of the frame of the stout British ship "Resolute," which, after a long search in the Polar regions for the hapless Sir John Franklin—of whom more hereafter—was deserted by her crew in the Arctic pack, drifted twelve hundred miles in the ice, and was then discovered and brought back home as good as new by Captain Buddington of the stanch American whaler, "George and Henry." The sympathies of all civilized peoples, and particularly of English-speaking races, were at that time strongly stirred by the fate of Franklin and his brave companions, and so Congress appropriated $40,000 for the purchase of the vessel from the salvors, and her repair. Refitted throughout, she was sent to England and presented to the Queen in 1856. Years later, when broken up, the desk was made from her timbers and presented by order of Victoria to the President of the United States, who at that time was Rutherford B. Hayes. It stands now in the executive mansion, an enduring memorial of one of the romances of a long quest full of romance—the search for the North Pole.

In all ages, the minds of men of the exploring and colonizing nations, have turned toward the tropics as the region of fabulous wealth, the field for profitable adventure. "The wealth of the Ind," has passed into proverb. Though exploration has shown that it is the flinty North that hides beneath its granite bosom the richest stores of mineral wealth, almost four centuries of failure and disappointment were needed to rid men's minds of the notion that the jungles and the tropical forests were the most abundant hiding-places of gold and precious stones. The wild beauty of the tropics, the cloudless skies, the tangled thickets, ever green and rustling with a restless animal life, the content and

amiability of the natives, combined in a picture irresistibly attractive to the adventurer. Surely where there was so much beauty, so much of innocent joy in life, there must be the fountain of perpetual youth, there must be gold, and diamonds, and sapphires—all those gewgaws, the worship of which shows the lingering taint of barbarism in the civilized man, and for which the English, Spanish, and Portuguese adventurers of three centuries ago, were ready to sacrifice home and family, manhood, honor, and life.

So it happened that in the early days of maritime adventure the course of the hardy voyagers was toward the tropics, and they made of the Spanish Main a sea of blood, while Pizzarro and Cortez, and after them the dreaded buccaneers, sacked towns, betrayed, murdered, and outraged, destroyed an ancient civilization and fairly blotted out a people, all in the mad search for gold. Men only could have been guilty of such crimes, for man along, among animals endowed with life, kills for the mere lust of slaughter.

And yet, man alone stands ready to risk his life for an idea, to brave the most direful perils, to endure the most poignant suffering that the world's store of knowledge may be increased, that science may be advanced, that just one more fact may be added to the things actually known. If the record of man in the tropics has been stained by theft, rapine, and murder, the story of his long struggle with the Arctic ice, offers for his redemption a series of pictures of self-sacrifice, tenderness, honor, courage, and piety. No hope of profit drew the seamen of all maritime nations into the dismal and desolate ice-floes that guard the frozen North. No lust for gold impelled them to brave the darkness, the cold, and the terrifying silence of the six-months Arctic night. The

men who have—thus far unsuccessfully—fought with ice-bound nature for access to the Pole, were impelled only by honorable emulation and scientific zeal.

The earlier Arctic explorers were not, it is true, searchers for the North Pole. That quest—which has written in its history as many tales of heroism, self-sacrifice, and patient resignation to adversity, as the poets have woven about the story of chivalry and the search for the Holy Grail—was begun only in the middle of the last century, and by an American. But for three hundred years English, Dutch, and Portuguese explorers, and the stout-hearted American whalemen, had been pushing further and further into the frozen deep. The explorers sought the "Northwest Passage," or a water route around the northern end of North America, and so on to India and the riches of the East. Sir John Franklin, in the voyage that proved his last, demonstrated that such a passage could be made, but not for any practical or useful purpose. After him it was abandoned, and geographical research, and the struggle to reach the pole, became the motives that took men into the Arctic.

"But why," many people ask, with some reason, "should there be this determined search for the North Pole. What good will come to the world with its discovery? Is it worth while to go on year after year, pouring out treasure and risking human lives, merely that any hardy explorer may stand at an imaginary point on the earth's surface which is already fixed geographically by scientists?"

Let the scientists and the explorers answer, for to most of us the questions do not seem unreasonable.

Naturally, with the explorers' love for adventure, eagerness to see any impressive manifestations of nature's powers, and the ambition to attain a spot for which men

have been striving for half a century, are the animating purposes. So we find Fridjof Nansen, who for a time held the record of having attained the "Furthest North," writing on this subject to an enquiring editor: "When man ceases to wish to know and to conquer every foot of the earth, which was given him to live upon and to rule, then will the decadence of the race begin. Of itself, that mathematical point which marks the northern termination of the axis of our earth, is of no more importance than any other point within the unknown polar area; but it is of much more importance that this particular point be reached, because there clings about it in the imagination of all mankind, such fascination that, till the Pole is discovered, all Arctic research must be affected, if not overshadowed, by the yearning to attain it."

George W. Melville, chief engineer of the United States Navy, who did such notable service in the Jeanette expedition of 1879, writes in words that stir the pulse:

"Is there a better school of heroic endeavor than the Arctic zone? It is something to stand where the foot of man has never trod. It is something to do that which has defied the energy of the race for the last twenty years. It is something to have the consciousness that you are adding your modicum of knowledge to the world's store. It is worth a year of the life of a man with a soul larger than a turnip, to see a real iceberg in all its majesty and grandeur. It is worth some sacrifice to be alone, just once, amid the awful silence of the Arctic snows, there to communicate with the God of nature, whom the thoughtful man finds best in solitude and silence, far from the haunts of men—alone with the Creator."

Thus the explorers. The scientists look less upon the picturesque and exciting side of Arctic exploration, and more upon its useful phases. "It helps to solve useful

problems in the physics of the world," wrote Professor Todd of Amherst college. "The meteorology of the United States to-day; perfection of theories of the earth's magnetism, requisite in conducting surveys and navigating ships; the origin and development of terrestrial fauna and flora; secular variation of climate; behavior of ocean currents—all these are fields of practical investigation in which the phenomena of the Arctic and Antarctic worlds play a very significant rôle."

Lieutenant Maury, whose eminent services in mapping the ocean won him international honors, writes of the polar regions:

"There icebergs are launched and glaciers formed. There the tides have their cradle, the whales their nursery. There the winds complete their circuits, and the currents of the sea their round in the wonderful system of interoceanic circulation. There the aurora borealis is lighted up, and the trembling needle brought to rest, and there, too, in the mazes of that mystic circle, terrestrial forces of occult power, and vast influence upon the well-being of men, are continually at play. . . . Noble daring has made Arctic ice and waters classic ground. It is no feverish excitement nor vain ambition that leads man there. It is a higher feeling, a holier motive, a desire to look into the works of creation, to comprehend the economy of our planet, and to grow wiser and better by the knowledge."

Nor can it be said fairly that the polar regions have failed to repay, in actual financial profit, their persistent invasion by man. It is estimated by competent statisticians, that in the last two centuries no less than two thousand million dollars' worth of furs, fish, whale-oil, whalebone, and minerals, have been taken out of the ice-bound seas.

The full story—at once sorrowful and stimulating—of Arctic exploration, can not be told here. That would require volumes rather than a single chapter. Even the part played in it by Americans can be sketched in outline only. But it is worth remembering that the systematic attack of our countrymen upon the Arctic fortress, began with an unselfish and humane incentive. In 1845 Sir John Franklin, a gallant English seaman, had set sail with two stout ships and 125 men, to seek the Northwest Passage. Thereafter no word was heard from him, until,

"THEY FELL DOWN AND DIED AS THEY WALKED"

years later, a searching party found a cairn of stones on a desolate, ice-bound headland, and in it a faintly written record, which told of the death of Sir John and twenty-four of his associates. We know now, that all who set out on this ill-fated expedition, perished. Struggling to the southward after abandoning their ships, they fell one by one, and their lives ebbed away on the cruel ice. "They fell down and died as they walked," said an old Esquimau woman to Lieutenant McClintock, of the British navy, who sought for tidings of them, and, indeed, her report

found sorrowful verification in the skeletons discovered years afterward, lying face downward in the snow. To the last man they died. Think of the state of that last man—alone in the frozen wilderness! An eloquent writer, the correspondent McGahan, himself no stranger to Arctic pains and perils, has imagined that pitiful picture thus:

"One sees this man after the death of his last remaining companion, all alone in that terrible world, gazing round him in mute despair, the sole living thing in that dark frozen universe. The sky is somber, the earth whitened with a glittering whiteness that chills the heart. His clothing is covered with frozen snow, his face lean and haggard, his beard a cluster of icicles. The setting sun looks back to see the last victim die. He meets her sinister gaze with a steady eye, as though bidding her defiance. For a few minutes they glare at each other, then the curtain is drawn, and all is dark."

As fears for Franklin's safety deepened into certainty of his loss with the passage of months and years, a multitude of searching expeditions were sent out, the earlier ones in the hope of rescuing him; the later ones with the purpose of discovering the records of his voyage, which all felt sure must have been cached at some accessible point. Americans took an active—almost a leading—part in these expeditions, braving in them the same perils which had overcome the stout English knight. By sea and by land they sought him. The story of the land expeditions, though full of interest, is foreign to the purpose of this work, and must be passed over with the mere note that Charles F. Hall, a Cincinnati journalist, in 1868-69, and Lieutenant Schwatka, and W. H. Gilder in 1878-79 fought their way northward to the path followed by the English explorer, found many relics of his expedition,

and from the Esquimaux gathered indisputable evidence of his fate. By sea the United States was represented in the search for Franklin, by the ships "Advance" and "Rescue." They accomplished little of importance, but on the latter vessel was a young navy surgeon, Dr. Elisha Kent Kane, who was destined to make notable contributions to Arctic knowledge, both as explorer and writer.

One who studies the enormous volume of literature in which the Arctic story is told, scarcely can fail to be impressed by the pertinacity with which men, after one experience in the polar regions, return again and again to the quest for adventure and honors in the ice-bound zone. The subaltern on the expedition of to-day, has no sooner returned than he sets about organizing a new expedition, of which he may be commander. The commander goes into the ice time and again until, perhaps, the time comes when he does not come out. The leader of a rescue party becomes the leader of an exploring expedition, which in its turn, usually comes to need rescue.

So we find Dr. Kane, who was surgeon of an expedition for the rescue of Franklin, commanding four years later the brig "Advance," and voyaging northward through Baffin's Bay. Narrowly, indeed, he escaped the fate of the man in the search for whom he had gained his first Arctic experience. His ship, beset by ice, and sorely wounded, remained fixed and immovable for two years. At first the beleaguered men made sledge journeys in every direction for exploratory purposes, but the second year they sought rather by determined, though futile dashes across the rugged surface of the frozen sea, to find some place of refuge, some hope of emancipation from the thraldom of the ice. The second winter all of the brig except the hull, which served for shelter, was burned for fuel; two men had died, and many were sick

of scurvy, the sledge dogs were all dead, and the end of the provisions was in sight. In May, 1855, a retreat in open boats, covering eighty-five days and over fifty miles of open sea, brought the survivors to safety.

When men have looked into the jaws of death, it might be thought they would strenuously avoid such another view. But there is an Arctic fever as well as an Arctic chill, and, once in the blood, it drags its victim irresistibly to the frozen North, until perhaps he lays his bones among the icebergs, cured of all fevers forever. And so, a year or two after the narrow escape of Dr. Kane, the surgeon of his expedition, Dr. Isaac I. Hayes, was hard at work fitting out an expedition of which he was to be commander, to return to Baffin's Bay and Smith sound, and if possible, fight its way into that open sea, which Dr. Hayes long contended surrounded the North Pole. No man in the Kane expedition had encountered greater perils, or withstood more cruel suffering than Dr. Hayes. A boat trip which he made in search of succor, has passed into Arctic history as one of the most desperate expedients ever adopted by starving men. But at the first opportunity he returned again to the scenes of his peril and his pain. His expedition, though conducted with spirit and determination, was not of great scientific value, as he was greatly handicapped in his observations by the death of his astronomer, who slipped through thin ice into the sea, and froze to death in his water-soaked garments.

A most extraordinary record of daring and suffering in Arctic exploration was made by Charles F. Hall, to whom I have already referred. Beginning life as an engraver in Cincinnati, he became engrossed in the study of Arctic problems, as the result of reading the stories of the early navigators. Every book bearing on the subject

in the library of his native city, was eagerly read, and his enthusiasm infected some of the wealthy citizens, who gathered for his use a very considerable collection of volumes. Mastering all the literature of the Arctic, he determined to undertake himself the arduous work of the explorer. Taking passage on a whaler, he spent several years among the Esquimaux, living in their crowded and fetid *igloos,* devouring the blubber and uncooked fish that form their staple articles of diet, wearing their garb of furs, learning to navigate the treacherous kayak in

"THE TREACHEROUS KAYAK"

tossing seas, to direct the yelping, quarreling team of dogs over fields of ice as rugged as the edge of some monstrous saw, studying the geography so far as known of the Arctic regions, perfecting himself in all the arts by which man has contested the supremacy of that land with the ice-king. In 1870, with the assistance of the American Geographical Society, Hall induced the United States Government to fit him out an expedition to seek the North Pole—the first exploring party ever sent out with that definite purpose. The steamer "Polaris," a converted navy tug, which General Greely says was wholly unfit for Arctic service, was given him, and a scientific staff supplied by the Government, for though Hall had by painstaking endeavor qualified himself to lead an expedition, he had not enjoyed a scientific education. Neither was he a sailor like DeLong, nor a man trained to the command of men like Greely. Enthusiasm and natural fitness

with him took the place of systematic training. But with him, as with so many others in this world, the attainment of the threshold of his ambition proved to be but opening the door to death. By a sledge journey from his ship he reached Cape Brevoort, above latitude 82, at that time the farthest north yet attained, but the exertion proved too much for him, and he had scarcely regained his ship when he died. His name will live, however, in the annals of the Arctic, for his contributions to geographical knowledge were many and precious.

The men who survived him determined to continue his work, and the next summer two fought their way northward a few miles beyond the point attained by Hall. But after this achievement the ship was caught in the ice-pack, and for two months drifted about, helpless in that unrelenting grasp. Out of this imprisonment the explorers escaped through a disaster, which for a time put all their lives in the gravest jeopardy, and the details of which seem almost incredible. In October, when the long twilight which precedes the polar night, had already set in, there came a fierce gale, accompanied by a tossing, roaring sea. The pack, racked by the surges, which now raised it with a mighty force, and then rolling on, left it to fall unsupported, began to go to pieces. The whistling wind accelerated its destruction, driving the floes far apart, heaping them up against the hull of the ship until the grinding and the prodigious pressure opened her seams and the water rushed in. The cry that the ship was sinking rung along the decks, and all hands turned with desperate energy to throwing out on the ice-floe to windward, sledges, provisions, arms, records—everything that could be saved against the sinking of the ship, which all thought was at hand. Nineteen of the ship's company were landed on the floe to carry the material away from

THE SHIP WAS CAUGHT IN THE ICE-PACK.

its edge to a place of comparative safety. The peril seemed so imminent that the men in their panic performed prodigious feats of strength—lifting and handling alone huge boxes, which at ordinary times, would stagger two men. A driving, whirling snowstorm added to the gloom, confusion, and terror of the scene, shutting out almost completely those on the ice from the view of those still on the ship. In the midst of the work the cry was raised that the floes were parting, and with incredible rapidity the ice broke away from the ship on every side, so that communication between those on deck and those on the floe was instantly cut off by a broad interval of black and tossing water, while the dark and snow-laden air cut off vision on every side. The cries of those on the ice mingled with those from the fast vanishing ship, for each party thought itself in the more desperate case. The ice was fast going to pieces, and boats were plying in the lanes of water thus opened, picking up those clinging to smaller cakes of ice and transporting them to the main floe. On the ship the captain's call had summoned all hands to muster, and they gazed on each other in dumb despair as they saw how few of the ship's company remained. All were sent to the pumps, for the water in the hold was rising with ominous rapidity. The cry rang out that the steam-pumps must be started if the ship was to be saved, but long months had passed since any fire had blazed under those boilers, and to get up steam was a work of hours. With tar-soaked oakum and with dripping whale blubber the engineer strove to get the fires roaring, the while the men on deck toiled with desperate energy at the hand-pumps. But the water gained on them. The ship sunk lower and lower in the black ocean, until a glance over the side could tell all too plainly that she was going to her fate. Now the water begins to

ooze through the cracks in the engine-room floor, and break in gentle ripples about the feet of the firemen. If it rises much higher it will flood the fire-boxes, and then all will be over, for there is not one boat left on the ship—all were landed on the now invisible floe. But just as all hope was lost there came a faint hissing of steam, the pumps began slowly moving, and then settled down into their monotonous "chug-chug," the sweetest sound, that day, those desperate mariners had ever heard. They were saved by the narrowest of chances.

ADRIFT ON AN ICE-FLOE

We must pass hastily to the sequel of this seemingly irreparable disaster. The "Polaris" was beached, winter quarters established, and those who had clung to the ship spent the winter building boats, in which, the following spring, they made their way southward until picked up by a whaler. Those on the floe drifted at the mercy of the wind and tide 195 days, making over 1300 miles to the southward. As the more temperate latitudes were reached, and the warmer days of spring came on, the floe began going to pieces, and they were continually con-

fronted with the probability of being forced to their boat for safety—one boat, built to hold eight, and now the sole reliance of nineteen people. It is hard to picture through the imagination the awful strain that day and night rested upon the minds of these hapless castaways. Never could they drop off to sleep except in dread that during the night the ice on which they slept, might split, even under their very pallets, and they be awakened by the deathly plunge into the icy water. Day and night they were startled and affrighted by the thunderous rumblings and cracking of the breaking floe—a sound that an experienced Arctic explorer says is the most terrifying ever heard by man, having in it something of the hoarse rumble of heavy artillery, the sharp and murderous crackle of machine guns, and a kind of titanic grinding, for which there is no counterpart in the world of tumult. Living thus in constant dread of death, the little company drifted on, seemingly miraculously preserved. Their floe was at last reduced from a great sheet of ice, perhaps a mile or more square, to a scant ten yards by seventy-five, and this rapidly breaking up. In two days four whalers passed near enough for them to see, yet failed to see them, but finally their frantic signals attracted attention, and they were picked up—not only the original nineteen who had begun the drift six months earlier, but one new and helpless passenger, for one of the Esquimau women had given birth to a child while on the ice.

The next notable Arctic expedition from the United States had its beginning in journalistic enterprise. Mr. James Gordon Bennett, owner of the *New York Herald*, who had already manifested his interest in geographical work by sending Henry M. Stanley to find Livingston in the heart of the Dark Continent, fitted out the steam yacht "Pandora," which had already been used in Arctic ser-

vice, and placed her at the disposal of Lieutenant DeLong, U. S. N., for an Arctic voyage. The name of the ship was changed to "Jeannette," and control of the expedition was vested in the United States Government, though Mr. Bennett's generosity defrayed all charges. The vessel was manned from the navy, and Engineer Melville, destined to bear a name great among Arctic men, together with two navy lieutenants, were assigned to her. The voyage planned was then unique among American Arctic expeditions, for instead of following the conventional route north through Baffin's Bay and Smith Sound, the "Jeannette" sailed from San Francisco and pushed northward through Bering Sea. In July, 1879, she weighed anchor. Two years after, no word having been heard of her meanwhile, the inevitable relief expedition was sent out—the steamer "Rodgers," which after making a gallant dash to a most northerly point, was caught in the ice-pack and there burned to the water's edge, her crew, with greatest difficulty, escaping, and reaching home without one ray of intelligence of DeLong's fate.

That fate was bitter indeed, a trial by cold, starvation, and death, fit to stand for awesomeness beside Greely's later sorrowful story. From the very outset evil fortune had attended the "Jeannette." Planning to winter on Wrangle Land—then thought to be a continent—DeLong caught in the ice-pack, was carried past its northern end, thus proving it to be an island, indeed, but making the discovery at heavy cost. Winter in the pack was attended with severe hardships and grave perils. Under the influence of the ocean currents and the tides, the ice was continually breaking up and shifting, and each time the ship was in imminent danger of being crushed. In his journal DeLong tries to describe the terrifying clamor of

a shifting pack. "I know of no sound on shore that can be compared with it," he writes. "A rumble, a shriek, a groan, and the crash of a falling house all combined, might serve to convey an idea of the noise with which this motion of the ice-floe is accompanied. Great masses from fifteen to twenty-five feet in height, when up-ended, are sliding along at various angles of elevation and jam, and between and among them are large and confused masses of débris, like a marble yard adrift. Occasionally a stoppage occurs; some piece has caught against or under our floe; there follows a groaning and crackling, our floe bends and humps up in places like domes. Crash! The dome splits, another yard of floe edge breaks off, the pressure is relieved, and on goes again the flowing mass of rumbles, shrieks, groans, etc., for another spell."

Time and again this nerve-racking experience was encountered. More than once serious leaks were started in the ship, which had to be met by working the pumps and building false bulwarks in the hold; but by the exercise of every art known to sailors, she was kept afloat and tenable until June 11, 1881, when a fierce and unexpected nip broke her fairly in two, and she speedily sunk. There followed weeks and months of incessant and desperate struggling with sledge and boat against the forces of polar nature. The ship had sunk about 150 miles from what are known as the New Siberian Islands, for which DeLong then laid his course. The ice was rugged, covered with soft snow, which masked treacherous pitfalls, and full of chasms which had to be bridged. Five sleds and three boats were dragged by almost superhuman exertions, the sick feebly aiding the sturdy in the work. Imagine the disappointment, and despair of the leader, when, after a full week of this cruel labor, with provisions ever growing more scanty, an observation showed

him they were actually twenty-eight miles further away from their destination than when they started! While they were toiling south, the ice-floe over which they were plodding was drifting more rapidly north. *Nil desperandum* must ever be the watchword of Arctic expeditions,

DE LONG'S MEN DRAGGING THEIR BOATS OVER THE ICE

and DeLong, saying nothing to the others of his discovery, changed slightly the course of his march and labored on. July 19 they reached an island hitherto unknown, which was thereupon named Bennett Island. A curious feature of the toilsome march across the ice, was

that, though the temperature seldom rose to the freezing point, the men complained bitterly of the heat and suffered severely from sun-burn.

At Bennett Island they took to the boats, for now open water was everywhere visible. DeLong was making for the Lena River in Siberia, where there were known to be several settlements, but few of his party were destined to reach it. In a furious storm, on the 12th of September, the three boats were separated. One, commanded by Lieutenant Chipp, with eight men, must have foundered, for it was never again heard of. A second, commanded by George W. Melville, afterward chief engineer of the United States Navy, found one of the mouths of the Lena River, and ascending it reached a small Siberian village. Happy would it have been had DeLong and his men discovered the same pathway to safety, but the Lena is like our own Mississippi, a river with a broad delta and a multiplicity of mouths. Into an estuary, the banks of which were untrodden by man, and which itself was too shallow for navigation for any great distance, remorseless fate led DeLong. Forced soon to take to their sleds again, his companions toiled painfully along the river bank, with no known destination, but bearing ever to the south—the only way in which hope could possibly lie. Deserted huts and other signs of former human habitation were plenty, but nothing living crossed their path. At last, the food being at the point of exhaustion, and the men too weary and weak for rapid travel, DeLong chose two of the sturdiest, Nindemann and Noros, and sent them ahead in the hope that they might find and return with succor. The rest stumbled on behind, well pleased if they could advance three miles daily. Food gave out, then strength. Resignation took the place of determination. DeLong's journal for the last week of life is inexpressibly pitiful:

"Sunday, October 23—133d Day: Everybody pretty weak. Slept or rested all day, and then managed to get in enough wood before dark. Read part of divine service. Suffering in our feet. No foot-gear.

"Monday, October 24—134th Day: A hard night.

"Tuesday, October 25—135th Day.

"Wednesday, October 26—136th day.

"Thursday, October 27—137th Day: Iverson broken down.

"Friday, October 28—138th Day: Iverson died during early morning.

"Saturday, October 29th—139th Day: Dressler died during the night.

"Sunday, October 30—140th Day: Boyd and Cortz died during the night. Mr. Collins dying."

This is the last entry. The hand that penned it, as the manuscript shows, was as firm and steady as though the writer were sitting in his library at home. Words are spelled out in full, punctuation carefully observed. How long after these words were set down DeLong too died, none may ever know; but when Melville, whom Nindemann and Noros had found after sore privations, reached the spot of the death camp, he came upon a sorrowful scene. "I came upon the bodies of three men partly buried in the snow," he writes, "one hand reaching out, with the left arm of the man reaching way above the surface of the snow—his whole left arm. I immediately recognized them as Captain DeLong, Dr. Ambler, and Ah Sam, the cook. . . . I found the journal about three or four feet in the rear of DeLong—that is, it looked as though he had been lying down, and with his left hand tossed the book over his shoulder to the rear, or to the eastward of him."

How these few words bring the whole scene up before

us! Last, perhaps, of all to die, lying by the smoldering fire, the ashes of which were in the middle of the group of bodies when found, DeLong puts down the final words which tell of the obliteration of his party, tosses the book wearily over his shoulder, and turns on his side to die. And then the snow, falling gently, pitifully covers the rigid forms and holds them in its pure embrace until loyal friends seek them out, and tell to the world that again brave lives have been sacrificed to the ogre of the Arctic.

One of the most disastrous of the expeditions fitted out in the United States for the discovery of the North Pole was that commanded by Lieutenant A. W. Greely of the United States Army. Its story is a record of hardship, starvation and death. Of the band of twenty-five who set forth on the quest for the Pole seven were rescued after three years of Arctic suffering, helpless, starving and within a day of death. They had seen their comrades die, destroyed by starvation and cold, passing away in delirium while babbling of green fields and plenteous tables. From the doorway of the almost collapsed tent in which the seven survivors were found could be seen the row of shallow graves in which their less fortunate fellows lay buried—all save two whom they had been too weak to lay away.

The Greely expedition was not precisely part of the record of our merchant marine. It was not even a naval expedition for it was commanded by an army officer, and was under the direction of the Secretary of War—at that time Robert Lincoln, son of our great war President. Two army lieutenants and twenty men of the regular army and the signal corps, together with Edward Israel, astronomer, and George W. Rice, photographer, who volunteered and were enlisted, made up the party. But American sailors carried the explorers to their landing

place in the whaler "Proteus," and American sailors, commanded by Winfield Scott Schley, afterwards the hero of the naval victory of Santiago, rescued them from their starvation camp, so that some brief account of the expedition will not be out of place in a story of the United States at sea.

The Greely expedition was not designed for the discovery of the North Pole. It was the contribution of the United States to an international plan for the simultaneous establishment and maintenance of a series of observation stations within the Arctic circle. These observations were to deal with weather, currents of air and sea, the deviation and extent of magnetic and electrical disturbances—in brief data similar to those collated by the signal service at home. And as the Signal Service was a branch of the army establishment the expedition was turned over to the army.

The task did not appear to be a difficult one. Two years in the Arctic was the time of its duration. Greely was to go by ship to some point on Lady Franklin Bay, there land and build his station. He was to be furnished at the outset with stores for three years, but at the end of one year a relief ship was to be sent. Should it fail to reach the party it was to cache supplies and despatches at specified points at which they could be reached by Greely. A year later a second relief ship would be sent to bring the party home. Should this vessel fail to reach Greely by a specified date he was to break camp and travel southward along the main land until he either met the ship or found fresh supplies which she was to cache.

No plan could have been better devised. None ever failed more utterly. The outcome gave force to the opinion once expressed by Lieutenant Schwatka, veteran

Arctic explorer, that the teachings of experience were often worse than useless in polar work. Greely made his camp as planned, took his observations, pushed forward some exploratory expeditions by sledge until he had reached what was then the "furthest north"—latitude 83°, 24′ north—and carried his party through the first year without sickness or material discomfort. He built for his party a comfortable station on the shores of Discovery Bay, which he named Fort Conger, after a United States Senator who later was Minister to China at the time of the Boxer rebellion. Here two winters and a summer were spent. During the second winter the men suffered somewhat from depression because of the failure of the first relief ship to reach them. She had in fact visited the region, made a most perfunctory search for Greely and retired after leaving provisions at points which the explorers never reached.

When the second spring arrived Greely began his preparations to move to the south. Had he started as soon as the Arctic sun began its brief appearances all would have been well. But he relied on the specific promises of the War Department, and clung to his camp, continuing his observations and—fatal error—depleting his provisions. It was the middle of August before he packed his remaining supplies on sledges and started south hoping to meet the relief expedition on the way.

At that moment the "Proteus" of the relief expedition was at the bottom of the sea—nipped by the ice pack. Her consort, the "Yantic" had gone impotently home, not even leaving any provisions for the abandoned men.

Fighting their way over ice fields, of "hummocky" ice and across turbulent waters the retreating party made 500 miles in a little over fifty days—400 miles in the boats and 100 by sledges.

Sledging in the Arctic over "hummock" ice is, perhaps, the most wearing form of toil known to man, and with such heavy loads as Greely carried, every mile had to be gone over twice, and sometimes three times, as the men would be compelled to leave part of the load behind and go back after it. Yet the party was cheerful, singing and joking at their work, as one of the sergeants records. Finally they reached the vicinity of Cape Sabine, all in good health, with instruments and records saved, and with arms and ammunition enough to procure ample food in a land well stocked with game. But they did not worry very much about food, though their supply was by this time growing low. Was not Cape Sabine the spot at which the relief expeditions were to cache food, and could it be possible that the great United States Government would fail twice in an enterprise which any Yankee whaler would gladly take a contract to fulfill?

The men were now, however, keenly alive to the peril of their situation. Lieutenant Lockwood wrote in his diary under date of October 5th:

"We have now three chances for our lives: First, finding American cache sufficient at Sabine or Isabella; second, of crossing the straits when our present ration is gone; third, of shooting sufficient seal and walrus near by here to last the winter."

The second chance proved impracticable. The third was insufficient, though the game shot did preserve the lives of a few of the party. While the main company was building the winter camp, Photographer Rice with one of the Esquimaux set out for Cape Sabine to put the first chance for life to the test. He brought back a report which held out a promise that in the end proved not merely illusory but fatal.

For in a cairn of stones at Cape Sabine the searchers

found a record left by Garlington, the commander of the "Proteus" saying that he had cached near by 500 rations of bread, tea and canned goods, and that in an old cache left by an earlier English expedition he had found 250 rations more in good condition. This indicated that some 1,300 pounds of food was in the vicinity—too much to haul to Greely's winter camp, but enough to justify his abandoning that camp and moving to Cape Sabine. There was still a chance for him to escape altogether by taking to his boats, and moving southward through the open water, but the news of provisions enough to last through the winter led him to reject this course. He determined upon Cape Sabine and, as the issue showed, starvation.

The permanent camp which for many of the party was to be a tomb, was fixed a few miles from Cape Sabine by the side of a pool of fresh water—frozen, of course. Here a hut was built with stone walls three feet high, rafters made of oars with the blades cut off, and a canvas roof, except in the center, where an upturned whaleboat made a sort of a dome. Only under the whaleboat could a man get on his knees and hold himself erect; elsewhere the heads of the tall men touched the roof when they sat up in their sleeping bags on the dirt floor. With twenty-five men in sleeping bags, which they seldom left, two in each bag, packed around the sides of the hut, a stove fed with stearine burning in the center for the cooking of the insufficient food to which they were reduced, and all air from without excluded, the hut became a place as much of torture as of refuge.

The problem of food and the grim certainty of starvation were forced upon them with the very first examination of the caches of which Garlington had left such encouraging reports. At Cape Isabella only 144 pounds of meat was found, in Garlington's cache only 100 rations

instead of 500 as he had promised. Moldy bread and dog biscuits fairly green with mold, though condemned by Greely, were seized by the famished men, and devoured ravenously without a thought of their unwholesomeness. When November 1 came, the daily ration for each man was fixed at six ounces of bread, four ounces of meat, and four ounces of vegetables—about a quarter of what would be moderate sustenance for a healthy man. By keeping the daily issue of food down to this pitiful amount Greely calculated that he would have enough to sustain life until the first of March, when with ten days' double rations still remaining, he would make an effort to cross the strait to Littleton Island, where he thought —mistakenly—that Lieutenant Garlington awaited him with ample stores. Of course all game shot added to the size of the rations, and that the necessary work of hunting might be prosecuted, the hunters were from the first given extra rations to maintain their strength. Fuel, too, offered a serious problem. Alcohol, stearine and broken wood from a whaleboat and barrels, were all employed. In order to get the greatest heat from the wood it was broken up into pieces not much larger than matches.

The story of Christmas Day is inexpressibly touching as told in the simple language of Greely's diary:

"Our breakfast was a thin pea-soup, with seal blubber, and a small quantity of preserved potatoes. Later two cans of cloudberries were served to each mess, and at half-past one o'clock Long and Frederick commenced cooking dinner, which consisted of a seal stew, containing seal blubber, preserved potatoes and bread, flavored with pickled onions; then came a kind of rice pudding, with raisins, seal blubber and condensed milk. Afterward we had chocolate, followed later by a kind of punch made of a gill of rum and a quarter of a lemon to each man. . . .

Everybody was required to sing a song or tell a story, and pleasant conversation with the expression of kindly feelings was kept up until midnight."

They were, however, nearing the end of all that could sustain life. In a few days men began to die from privations. For food they were reduced to bits of leather, shrimps, lichens from the rocks. One man was shot for stealing from the general store. By April there was little left to do save to die, and they went fast. Hardly one but left a record of heroism in the face of certain death.

Meantime a relief expedition, organized at home after inexcusable delay, was searching for the castaways. Into the details of its search we cannot enter but this description of the final rescue given by Admiral Schley, in command, will sufficiently round out the melancholy story of Greely's ill-fated expedition:

It was half-past eight in the evening as the cutter steamed around the rocky bluff of Cape Sabine and made her way to the cove, four miles further on, which Colwell knew so well. . . . The storm which had been raging with only slight intervals since early the day before, still kept up, and the wind was driving in bitter gusts through the opening in the ridge that followed the coast to the westward. Although the sky was overcast it was broad daylight—the daylight of a dull winter afternoon. . . . At last the boat arrived at the site of the wreck cache, and the shore was eagerly scanned, but nothing could be seen. Rounding the next point, the cutter opened out the cove beyond. There on the top of a little ridge, fifty or sixty yards above the ice-foot, was plainly outlined the figure of a man. Instantly the coxswain caught up his boathook and waved his flag. The man on the ridge had seen them, for he stooped, picked up a signal flag, and waved it in reply. Then he was seen coming slowly and cautiously down the steep rocky slope. Twice he fell down before he reached the foot. As he approached, still walking slowly and with difficulty, Colwell hailed him from the bow of the boat.

"Who all are there left?"

"Seven left."

As the cutter struck the ice Colwell jumped off, and went up to him. He was a ghastly sight. His cheeks were hollow, his eyes wild, his hair and beard long and matted. His army blouse, covering several thicknesses of shirts and jackets, was ragged and dirty. He wore a little fur cap and rough moccasins of untanned leather tied around the leg. As he spoke his utterance was thick and mumbling, and in his agitation his jaws worked in convulsive twitches. As the two met, the man, with a sudden impulse, took off his gloves and shook Colwell's hand.

"Where are they?" asked Colwell, briefly.

"In the tent," said the man, pointing over his shoulder, "over the hill—the tent's down."

"Is Mr. Greely alive?"

"Yes, Greely's alive."

"Any other officers?"

"No." Then he repeated absently, "The tent's down."

"Who are you?"

"Long."

Before this colloquy was over Lowe and Norman had started up the hill. Hastily filling his pockets with bread, and taking the two cans of pemmican, Colwell told the coxswain to take Long into the cutter, and started after the others with Ash. Reaching the crest of the ridge and looking southward, they saw spread out before them a desolate expanse of rocky ground, sloping gradually from a ridge on the east to the ice-bound shore, which on the west made in and formed a cove. Back of the level space was a range of hills rising up eight hundred feet with a precipitous face, broken in two by a gorge, through which the wind was blowing furiously. On a little elevation directly in front was the tent. Hurrying on across the intervening hollow, Colwell came up with Lowe and Norman just as they were greeting a soldierly looking man who had come out of the tent.

As Colwell approached, Norman was saying to the man: "There is the Lieutenant."

And he added to Lieutenant Colwell:

"This is Sergeant Brainard."

Brainard immediately drew himself up to the position of the

soldier, and was about to salute, when Colwell took his hand.

At this moment there was a confused murmur within the tent, and a voice said: "Who's there?"

Norman answered: "It's Norman—Norman who was in the 'Proteus.'"

This was followed by cries of "Oh, it's Norman," and a sound like a feeble cheer.

Meanwhile one of the relief party, who in his agitation and excitement was crying like a child, was down on his knees trying to roll away the stones that held the flapping tent-cloth. . . . Colwell called for a knife, cut a slit in the tent cover and looked in. It was a sight of horror. On one side close to the opening, with his face toward the opening, lay what was apparently a dead man. His jaw had dropped, his eyes were open, but fixed and glassy, his limbs were motionless. On the other side was a poor fellow, alive, to be sure, but without hands or feet, and with a spoon tied to the stump of his right arm. Two others seated on the ground in the middle had just got down a rubber bottle, that hung on the tent-pole, and were pouring from it into a tin can. Directly opposite, on his hands and knees, was a dark man, with a long, matted beard, in a dirty and tattered dressing gown, with a little red, tattered skull-cap on his head and brilliant, staring eyes. As Colwell appeared he raised himself a little and put on a pair of eye-glasses.

"Who are you?" asked Colwell.

The man made no reply, staring at him vacantly.

"Who are you?" again.

One of the men spoke up. "That's the Major—Major Greely."

Colwell crawled in and took him by the hand, saying: "Greely, is this you?"

"Yes," said Greely in a faint voice, hesitating and shuffling with his words, 'yes—seven of us left—here we are—dying like men. Did what I came to do. Beat the best record."

Then he fell back exhausted.

The frightful experience of the Greely party did not discourage polar exploration. Men of many races took up the race for the Pole, and Fridjof Nansen, of Arctic Norway, had hardly recorded his attainment of the

"farthest north," 86°, 14′ latitude, when the Duke of the Abruzzi, of sunny Italy, wrested away his laurels by reaching 86°, 33′ north. Rudolph Andree, in 1897, put to the test the desperate expedient of setting out for the Pole in a balloon from Dane's Island, Spitzbergen. It was long before the days of dirigibles and the wind that bore Andree swiftly out of sight carried him forever beyond all mortal ken. Now and then rumors have come of a mysterious white man abiding among the Esquimaux of the frozen North, or of strange relics discovered on the crest of the great icepack. But nothing definite has been learned of Andree since he cast off his cable and committeed himself to the Arctic gales.

No whit discouraged by Andree's fate Walter Wellman, an American journalist, planned the conquest of the Pole by balloon in 1907. The chances seemed promising for Wellman, for the notable inventions of the Count von Zeppelin had made the dirigible balloon an accomplished fact since Andree had committed himself to the perilous chances of a mere drifter. But while Wellman developed his plans with the utmost care, and blocked out a line of attack which made many believe he would attain the prize, nothing but ill-fortune attended his efforts. Distrusting, perhaps, the motive power of the dirigible he had constructed he spent one summer at Dane's Island, near Spitzbergen, waiting for a favoring breeze. The following year he was about to start when a fierce storm wrecked his balloon shed, and seriously crippled his ship. Before repairs could be made the Pole was discovered by Peary, and the motive for further expeditions was ended. It was perhaps as well for Wellman and his companions that they were balked of their Arctic ambitions. For with his balloon repaired, and somewhat improved he started from Atlantic City in 1911

to attempt the transatlantic crossing. His craft, however, proved unmanageable and after 72 hours in the air he was rescued, with his ship's company, by a passing ship. Not long after his chief engineer, Vanniman, with a new dirigible essayed the ocean passage only to be lost, with all his companions, by an explosion in midair.

The story of these futile essays in Arctic exploration has been told hastily, for they had but little to do with American merchant seamen. The Greely expedition was military in its character—only its relief is to be credited to our sailors.

It was, however, by an American sailor, Lieutenant Robert E. Peary, U. S. N., commanding American crews, and navigating an American ship that the actual location of the North Pole was finally accomplished. The long list of contestants for that honor bears the names of many devoted and determined men, some of whom gave up their lives in the effort to extend the range of human knowledge and observation, ever further and further into the land of eternal ice. But none of these had done more in the way of courage, determination and long and persistent effort to accomplish victory than Peary who finally attained it. He began Arctic exploration in 1886. He won his victory in 1909. For almost a quarter of a century he had battled with stormy seas and resistless ice-floes, or had endured the more disheartening struggles involved in raising funds at home for his invasions of the Arctic. Though an officer of the navy, his expeditions were never governmental affairs, but were financed by scientific societies. In each of his eight trips he established scientific facts of importance, in one demonstrating the fact that Greenland is an island, in another discovering certain huge meteorites and learning that from them the Esquimaux drew the supply of iron with which

some of their weapons were tipped. No explorer so thoroughly studied the habits of the little yellow people who inhabit the icy reaches beyond the Arctic circle, and in his later expeditions he relied much upon these natives as members of his exploring parties. No man ever made Arctic life so thoroughly his own. On two of his expeditions he was accompanied by his wife, and one daughter was born far within the circle of the Arctic night.

His final voyage in the ship "Roosevelt" built by the Peary Arctic Club took him to Cape Sheridan where he established a base and wintered. In February he started north on sledges with a large party, from which detachments were sent back from time to time. On the way back they established stations at which provisions were cached for Peary's use, so that in his final dash for the pole he might be little burdened with supplies, but would find all needed at fixed points on his return trip. Day by day as they pressed northward over the ice his band became smaller, until near the 88th parallel he sent back Captain Evelyn B. Baldwin, with a number of Esquimaux, and himself, with four of the natives and his negro servant pushed on to the northward. He had left his winter base with a force of 7 white men, 17 Esquimaux and 33 dogs. The final dash was made in five days, the party covering 130 miles. About thirty hours were spent at and about the Pole making observations and erecting a memorial cairn. In his own account of his triumph Peary is disappointingly reticent concerning his emotions at having thus attained an end for which men had fought and died for two centuries. Indeed, he records that his first thought was that he could now get some sleep, while the following note to his wife, written on the spot to be mailed on regaining civilization, is not at all suggestive of any extraordinary emotions:

90° No. Latitude, Apl. 17.

My dear Jo:

I have won out at last. Have been here a day. I start for home and you in an hour. Love to the kidsies.

BERT.

A weary commercial traveller who had just made a difficult sale might well have displayed more excitement and enthusiasm.

No story of our national exploits upon the sea could be complete without this brief survey of the contribution of our seafaring men to the conquest of the Arctic regions. The sailors were drawn largely from our merchant marine, and the final triumph was won by an officer of our navy. It is not the only record of adventure and of service in which the two have gone hand in hand.

The earliest explorers of Arctic regions had an economic purpose animating their adventurous endeavors. They sought a shorter way around the North American continent, a northwest passage to that eldorado of Asia and India which has for centuries been the magnet that drew merchant adventurers of Europe ever to the westward. That end has been attained by the simpler process of digging ditches at Suez and at Panama to let the world's freighted argosies pass. It is doubtful whether out of all the daring with which men have braved the perils of the frozen deep, out of all the sufferings which the Ice King has heaped upon those who invaded his dreary domain there has come any useful thing to mankind. Hudson's Bay, it is true, was discovered in the course of a voyage of Arctic exploration, and efforts have been made to use it during a brief open season, for a quick and economical all water route from the great granary of Manitoba to the markets of Europe. But whether this route will ever prove commercially worth while it is too early to determine.

In the main, the expenditure of effort, of treasure and of life in the polar regions must be set down as made wholly for the purpose of extending human knowledge into uncharted seas. The instinct that makes us all anxious to know what lies around the bend in the road, impelled the men who for three centuries have been trying to discover what lay beyond the impenetrable ice pack. The great goal has been won. No taint of uncertainty or lack of scientifi,c precision, rests upon Peary's discovery of the Pole. Yet already men are planning to follow his course through the air, that they may have more time for observation at the Pole, and in the surrounding regions.

To what useful end? None so far as human intelligence can now foresee. But the zest for exploration and discovery beats high in the American breast. It will be a sorry thing for mankind when all the unknown places have been surveyed and mapped. For then the American sailor, by sea and air, will be left, like Alexander, sighing for more worlds to conquer.

CHAPTER VII.

THE GREAT LAKES — THEIR SHARE IN THE MARITIME TRAFFIC OF THE UNITED STATES — THE EARLIEST RECORDED VOYAGERS — INDIANS AND FUR TRADERS — THE PIGMY CANAL AT THE SAULT STE. MARIE — BEGINNINGS OF NAVIGATION BY SAILS — DE LA SALLE AND THE "GRIFFIN" — RECOLLECTIONS OF EARLY LAKE SEAMEN — THE LAKES AS A HIGHWAY FOR WESTWARD EMIGRATION — THE FIRST STEAMBOAT — EFFECT OF MINERAL DISCOVERIES ON LAKE SUPERIOR — THE ORE-CARRYING FLEET — THE WHALEBACKS — THE SEAMEN OF THE LAKES — THE GREAT CANAL AT THE "SOO" — THE CHANNEL TO BUFFALO — BARRED OUT FROM THE OCEAN.

IN the heart of the North American Continent, forming in part the boundary line between the United States and the British possessions to the north, lies that chain of great freshwater lakes bordered by busy and rapidly growing commonwealths, washing the water-fronts of rich and populous cities, and bearing upon their steely blue bosoms a commerce which outdoes that of the Mediterranean in the days of its greatest glory. The old salt, the able seaman who has rounded the Horn, the skipper who has stood unflinchingly at the helm while the green seas towered over the stern, looks with contempt upon the fresh-water sailor and his craft. Not so the man of business or the statesman. The growth of lake traffic has been one of the most marvelous and the most influential factors in the industrial development of the United States. By it has been systematized and brought to the highest form of organization the most economical form of freight carriage in the world. Through it has been made possible

the enormous reduction in the price of American steel that has enabled us to invade foreign markets, and promises to so reduce the cost of our ships, that we may be able to compete again in ship-building, with the yards of the Clyde and the Tyne. Along the shores of these unsalted seas, great shipyards are springing up, that already build ships more cheaply than can be done anywhere else in the world, and despite the obstacles of shallow canals, and the treacherous channels of the St. Lawrence, have been able to build and send to tidewater, ocean ships in competition with the seacoast builders. The present of the lake marine is secure; its future is full of promise. Its story, if lacking in the elements of romance that attend upon the ocean's story, is well worth telling.

A decade more than two centuries ago a band of Iroquois Indians made their way in bark canoes from Lake Ontario up Lake Erie to the Detroit River, across Lake St. Clair, and thence through Lake Huron to Point Iroquois. They were the first navigators of the Great Lakes, and that they were not peace-loving boatmen, is certain from the fact that they traveled all these miles of primeval waterway for the express purpose of battle. History records that they had no difficulty in bringing on a combat with the Illinois tribes, and in an attempt to displace the latter from Point Iroquois, the invaders were destroyed after a six-days' battle.

It is still a matter of debate among philosophical historians, whether war, trade, or missionary effort has done the more toward opening the strange, wild places of the world. Each, doubtless, has done its part, but we shall find in the story of the Great Lakes, that the war canoes of the savages were followed by the Jesuit missionaries, and these in turn by the bateaux of the voyageurs employed by the Hudson Bay Company.

After the Iroquois had learned the way, trips of war canoes up and down the lakes, were annual occurrences, and warfare was almost perpetual. In 1680 the Iroquois, 700 strong, invaded Illinois, killed 1200 of the tribe there established, and drove the rest beyond the Mississippi. For years after the Iroquois nation were the rulers of the water-front between Lake Erie and Lake Huron. While this tribe was in undisputed possession, commerce had little to do with the navigation of the Great Lakes. The Indians went up and down the shores on long hunting trips, but war was the principal business, and every canoe was equipped for a fray at any time.

A story is told of a great naval battle that was fought on Lake Erie, nearly two centuries before the first steamer made its appearance on that placid water. A Wyandot prince, so the tale goes, fell in love with a beautiful princess of the Seneca tribe, who was the promised bride of a chief of her own nation. The warrior failed to win the heart of the dusky maiden, and goaded to desperation, entered the Senecas country by night, and carried off the lady. War immediately followed, and was prosecuted with great cruelty and slaughter for a long time. At last a final battle was fought, in which the Wyandots were worsted and forced to flee in great haste. The fugitives planned to cross the ice of the Straits (Detroit) River, but found it broken up and floating down stream. Their only alternative was to throw themselves on the floating ice and leap from cake to cake; they thus made their escape to the Canadian shore, and joined the tribes of the Pottawatomies, Ottawas, and Chippewas. A year later the Wyandots, equipped with light birch canoes, set out to defeat the Senecas, and succeeded in inducing them to give combat on the water. The Senecas made a fatal mistake and came out to meet the enemy in their clumsily-

constructed boats hollowed out of the trunks of trees. After much maneuvering the birch canoe fleet proceeded down Lake Erie to the head of Long Point, with the Senecas in hot pursuit. In the center of the lake the Wyandots turned and gave the Senecas so hot a reception that they were forced to flee, but could not make good their escape in their clumsy craft, and were all slain but one man, who was allowed to return and report the catastrophe to his own nation. This closed the war.

Legends are preserved that lead to the belief that there may have been navigators of the Great Lakes before the Indians, and it is generally believed that the latter were not the first occupants of the Lake Superior region. It is said that the Lake Superior country was frequently visited by a barbaric race, for the purpose of obtaining copper, and it is quite possible that these people may have been skilled navigators.

Commercial navigation of the Great Lakes, curiously enough, first assumed importance in the least accessible portion. The Hudson Bay Company, always extending its territory toward the northwest, sent its bateaux and canoes into Lake Superior early in the seventeenth century. To accommodate this traffic the company dug a canal around the falls of the St. Marie River, at the point we now call "the Soo." In time this pigmy progenitor of the busiest canal in the world, became filled with débris, and its very existence forgotten; but some years ago a student in the thriving town of Sault Ste. Marie, poring over some old books of the Hudson Bay Company, noticed several references to the company's canal. What canal could it be? His curiosity was aroused, and with the aid of the United States engineers in charge of the new improvements, he began a painstaking investigation. In time the line of the old ditch was discovered, and, indeed,

THE WOODEN BATEAUX OF THE FUR TRADERS.

it was no more than a ditch, two and a half feet deep, by eight or nine wide. One lock was built, thirty-eight feet long, with a lift of nine feet. The floor and sills of this lock were discovered, and the United States Government has since rebuilt it in stone, that visitors to the Soo may turn from the massive new locks, through which steel steamships of eight thousand tons pass all day long through the summer months, to gaze on the strait and narrow gate which once opened the way for all the commerce of Lake Superior. But through that gate there passed a picturesque and historic procession. Canoes spurred along by tufted Indians with black-robed Jesuit missionaries for passengers; the wooden bateaux of the fur traders, built of wood and propelled by oars, and carrying gangs of turbulent trappers and voyageurs; the company's chief factors in swift private craft, making for the west to extend the influence of the great corporation still further into the wilderness, all passed through the little canal and avoided the roaring waters of the Ste. Marie. It was but a narrow gate, but it played its part in the opening of the West.

War, which is responsible for most of the checks to civilization, whether or not it may in some instances advance the skirmish line of civilized peoples, destroyed the pioneer canal. For in 1812 some Americans being in that part of the country, thought it would be a helpful contribution to their national defense if they blew up the lock and shattered the canal, as it was on Canadian soil. Accordingly this was done, of course without the slightest effect on the conflict then raging, but much to the discomfort and loss of the honest voyageurs and trappers of the Lake Superior region, whose interest in the war could hardly have been very serious.

So far as history records the first sailing vessel to

spread its wings on the Great Lakes beyond Niagara Falls, was the "Griffin," built by the Chevalier de la Salle in 1679, near the point where Buffalo now stands. La Salle had brought to this point French ship-builders and carpenters, together with sailors, to navigate the craft when completed. It was his purpose to proceed in this vessel to the farthest corners of the Great Lakes, establish trading and trapping stations, and take possession of the country in the name of France. He was himself conciliatory with the Indians and liked by them, but jealousies among the French themselves, stirred up savage antagonism to him, and his ship narrowly escaped burning while still on the stocks. In August of 1679, however, she was launched, a brigantine of sixty tons burden, mounting five small cannon and three arquebuses. Her model is said to have been not unlike that of the caravels in which Columbus made his famous voyage, and copies of which were exhibited at the Columbian Exposition. Bow and stern were high and almost alike. Yet in this clumsy craft La Salle voyaged the whole length of Lake Erie, passed through the Detroit River, and St. Clair River and lake; proceeded north to Mackinaw, and thence south in Lake Michigan and into Green Bay. It was the first time any vessel under sail had entered those waters. Maps and charts there were none. The swift rushing waters of the Detroit River flowed smoothly over limestone reefs, which the steamers of to-day pass cautiously, despite the Government channels, cut deep and plainly lighted. The flats, that broad expanse of marsh permeated by a maze of false channels above Detroit, had to be threaded with no chart or guide. Yet the "Griffin" made St. Ignace in twenty days from having set sail, a record which is often not equaled by lumber schooners of the present time. From Green Bay, La Salle sent the vessel back with a

cargo of furs that would have made him rich for life, had it ever reached a market. But the vessel disappeared, and for years nothing was heard of her. Finally La Salle learned that a half-breed pilot, who had shown signs of treachery on the outward trip, had persuaded the crew to run her ashore in the Detroit River, and themselves to take the valuable cargo. But the traitors had reckoned without the savage Indians of the neighborhood, who also coveted the furs and pelts. While the crew were trying to dispose of these the red men set upon them and slew them all. The "Griffin" never again floated on the lakes.

It is difficult to determine the time when sailing vessels next appeared upon the lakes, but it was certainly not for nearly seventy-five years. Captain Jonathan Carver reported a French schooner on Lake Superior about 1766, and in 1772 Alexander Harvey built a forty-ton sloop on the same lake, in which he sought the site of a famous copper mine. But it was long before Lake Superior showed more than an infrequent sail, though on Lake Erie small vessels soon became common. Even in 1820 the furs of Lake Superior were sent down to Chicago in bateaux.

Two small sailing vessels, the "Beaver" and the "Gladwin," which proved very valuable to the besieged garrison at Detroit in 1763, were the next sailing vessels on the lakes, and are supposed to have been built by the English the year previous. It is said, that through the refusal of her captain to take ballast aboard, the "Gladwin" was capsized on Lake Erie and lost, and the entire crew drowned. The "Royal Charlotte," the "Boston," and the "Victory" appeared on the lakes a few years later, and went into commission between Fort Erie (Buffalo) and Detroit, carrying the first year 1,464 bales of fur to Fort Erie, and practically establishing commercial navigation.

It is hard to look clearly into the future. If the recommendations of one J. Collins, deputy surveyor-general of the British Government, had governed the destiny of the Great Lakes, the traffic between Buffalo and the Soo by water, would to-day be in boats of fifteen tons or less. Under orders of the English Government, Collins in 1788 made a survey of all the lakes and harbors from Kingston to Mackinac, and in his report, expressing his views as to the size of vessels that should be built for service on the lakes, he said he thought that for service on Lake Ontario vessels should be seventy-five or eighty tons burden, and on Lake Erie, if expected to run to Lake Huron, they should be not more than fifteen tons. What a stretch of imagination is necessary to conceive of the great volume of traffic of the present time, passing Detroit in little schooners not much larger than catboats that skim around the lakes! Imagine such a corporation as the Northern Steamship Company, with its big fleet of steel steamers, attempting to handle its freight business in sailing vessels of a size that the average wharf-rat of the present time would disdain to pilot. What a rush of business there would be at the Marine Post-Office in Detroit, if some day this company would decide to cut off three of its large steamers and send out enough schooners of the size recommended by the English officer, to take their place! The fleet would comprise at least 318 vessels, and would require not fewer than 1500 seamen to navigate. It is sometimes said that there is a continual panorama of vessels passing up and down the rivers of the Great Lakes, but what if the Englishman had guessed right? Happily he did not, and vessels of 1500 tons can navigate the connecting waters of Lake Huron and Lake Erie much better than those of fifteen tons could in his time. That the early ship-builders did not pay much attention to

"THE RED-MEN SET UPON THEM AND SLEW THEM ALL"

J. Collins, is evident from the fact that, when the Detroit was surrendered to the Americans in 1796, twelve merchant vessels were owned there of from fifty to one hundred tons each.

At the close of the eighteenth century the American sailor had hardly superseded the red men as a navigator, and lake vessels were not much more plentiful than airships are nowadays. Indeed, the entire fleet in 1799, so far as can be learned, was as follows: The schooners "Nancy," "Swan," and "Naegel;" the sloops "Sagina," "Detroit," "Beaver," "Industry," "Speedwell," and "Arabaska." This was the fleet, complete, of Lakes Huron, Erie, and Michigan.

"A wild-looking set were the first white sailors of the lakes," says Hubbard in his "Memorials of Half a Century." "Their weirdness was often enhanced by the dash of Indian blood, and they are better described as rangers of the woods and waters. Picturesque, too, they were in their red flannel or leather shirts and cloth caps of some gay color, finished to a point which hung over on one side with a depending tassel. They had a genuine love for their occupation, and muscles that never seemed to tire at the paddle and oar. These were not the men who wanted steamboats and fast sailing vessels. These men had a real love for canoeing, and from dawn to sunset, with only a short interval, and sometimes no midday rest, they would ply the oars, causing the canoe or barge to shoot through the water like a thing of life, but often contending against head winds and gaining little progress in a day's rowing."

One of the earliest American sailors on a lake ship bigger than a bateau, was "Uncle Dacy" Johnson, of Cleveland, who sailed for fifty years, beginning about 1850. "When I was a chunk of a boy," says the old Captain in a

letter to a New York paper, "I put a thirty-two pound bundle on my back and started on foot to Buffalo. I made the journey to Albany, N. Y., from Bridgeport, Conn., in sixteen days, which was nothing remarkable, as I had $3 in money, and a bundle of food. Many a poor

ONE OF THE FIRST LAKE SAILORS

fellow I knew started on the same journey with nothing but an axe. When I arrived at Buffalo I found a very small town—Cleveland, Sandusky, and Erie, were all larger. There were only two lighthouses on the lakes, one at Buffalo, which was the first one built, and the

other one at Erie. Buffalo was then called Fort Erie, and was a struggling little town. My first trip as a sailor was made from Buffalo to Erie, which was then considered quite a voyage. From Buffalo to Detroit was looked upon as a long voyage, and a vessel of thirty-two tons was the largest ship on the lakes. In 1813 I was one of a crew of four who left Buffalo on the sloop 'Commencement' with a cargo of whisky for Erie. While beating along shore the English frigate 'Charlotte' captured us and two boatloads of red-coats boarded our vessel and took us prisoners. We were paroled on shipboard the same day, and before night concocted a scheme to get the Englishmen drunk on our whisky. One of our fellows got drunk first, and told of our intentions, the plot was frustrated, and we narrowly escaped being hung."

Once begun, the conquest of the lakes as a highway for trade was rapid. We who live in the days of railroads can hardly appreciate how tremendous was the impetus given to the upbuilding of a region if it possessed practicable waterways. The whole history of the settlement of the Middle West is told in the story of its rivers and lakes. The tide of immigration, avoiding the dense forests haunted by Indians, the rugged mountains, and the broad prairies into which the wheel of the heavy-laden wagon cut deep, followed the course of the Potomac and the Ohio, the Hudson, Mohawk, and the Great Lakes. Streams that have long since ceased to be thought navigable for a boy's canoe were made to carry the settlers' few household goods heaped on a flatboat. The flood of families going West created a demand that soon covered the lakes with schooners and brigs. Landed on the lake shore near some little stream, the immigrants would build flatboats, and painfully pole their way into the interior to some spot that took their fancy. Ohio, Indiana,

"TWO BOAT-LOADS OF REDCOATS BOARDED US AND TOOK US PRISONERS"

Michigan, and Illinois thus filled up, towns growing by the side of streams now used only to turn mill-wheels, but which in their day determined where the prosperous settlement should be.

The steamboat was not slow in making its appearance on the lakes. In 1818, while it was still an experiment on the seaboard, one of these craft appeared on Lake Erie. The "Walk-in-the-Water" was her name, suggestive of Indian nomenclature and, withal, exceedingly descriptive. She made the trip from Buffalo to Detroit, not infrequently taking thirteen days. She was a side-wheeler, a model which still holds favor on the lower lakes, though virtually abandoned on the ocean and on Lake Superior. An oil painting of this little craft, still preserved, shows her without a pilot-house, steered by a curious tiller at the stern, with a smokestack like six lengths of stovepipe, and huge unboxed wheels. She is said to have been a profitable craft, often carrying as many as fifty passengers on the voyage, for which eighteen dollars was charged. For four years she held a monopoly of the business. Probably the efforts of Fulton and Livingstone to protect the monopoly which had been granted them by the State of New York, and the determination of James Roosevelt to maintain what he claimed to be his exclusive right to the vertical paddle-wheel, delayed the extension of steam navigation on the lakes as it did on the great rivers. After four years of solitary service on Lake Erie, the "Walk-in-the-Water" was wrecked in an October storm. Crowded with passengers, she rode out a heavy gale through a long night. At daybreak the cables parted and she went ashore, but no lives were lost. Her loss was considered an irreparable calamity by the settlers at the western end of the lake. "This accident," wrote an eminent citizen of Detroit,

"may be considered one of the greatest misfortunes which has ever befallen Michigan, for, in addition to its having deprived us of all certain and speedy communication with the civilized world, I am fearful it will greatly check the progress of immigration and improvement."

It is scarcely necessary to note now that the apprehensions of the worthy citizen of Michigan were unfounded. Steam navigation on the lakes was no more killed by the loss of the pioneer craft than was transatlantic steam navigation ended by the disapproving verdict of the scientists. Nowhere in the world is there such a spectacle of maritime activity, nowhere such a continuous procession of busy cargo-ships as in the Detroit River, and through the colossal locks of the "Soo" canals. In 1827 the first steamboat reached the Sault Ste. Marie, bearing among her passengers General Winfield Scott, on a visit of inspection to the military post there, but she made no effort to enter the great lake. About five years later, the first "smoke boat," as the Indians called the steamers, reached Chicago, the pigmy forerunner of the fleet of huge leviathans that all the summer long, nowadays, blacken Chicago's sky with their torrents of smoke, and keep the hurrying citizens fuming at the open draw of a bridge. All side-wheelers were these pioneers, wooden of course, and but sorry specimens of marine architecture, but they opened the way for great things. For some years longer the rushing torrent of the Ste. Marie's kept Lake Superior tightly closed to steamboats, but about 1840 the richness of the copper mines bordering upon that lake began to attract capital, and the need of steam navigation became crying. In 1845 men determined to put some sort of a craft upon the lake that would not be dependent upon the whims of wind and sails for propulsion. Accordingly, the sloop "Ocean," a little craft of fifteen tons, was fitted

out with an engine and wheels at Detroit and towed to the "Soo." There she was dragged out of the water and made the passage between the two lakes on rollers. The "Independence," a boat of about the same size, was treated in the same way later in the year. Scarcely anything in the history of navigation, unless it be the first successful application of steam to the propulsion of boats is of equal importance with the first appearance of steamboats in Lake Superior. It may be worth while to abandon for a moment the orderly historical sequence of this narrative, to emphasize the wonderful contrast between the commerce of Lake Superior in the days of the "Independence" and now—periods separated by scarcely sixty years. To-day the commerce of that lake is more than half of all the great lakes combined. It is conducted in steel vessels, ranging from 1500 to 8500 tons, and every year sees an increase in their size. In 1901 more than 27,000,000 tons of freight were carried in Lake Superior vessels, a gain of nearly 3,000,000 over the year before. The locks in the "Soo" canal, of which more later, have twice had to be enlarged, while the Canadian Government has built a canal of its own on the other side of the river. The discovery and development of the wonderful deposits of iron ore at the head of the lake have proved the greatest factors in the upbuilding of its commerce, and the necessity for getting this ore to the mills in Illinois, Ohio, and Pennsylvania, has resulted in the creation of a class of colossal cargo-carriers on the lake that for efficiency and results, though not for beauty, outdo any vessel known to maritime circles.

Now that the Panama Canal is a completed highway of commerce open to all nations, and the United States is considering the part it may play in extending our merchant marine, there is suggestiveness

in the part that the canal at the "Soo" played in stimulating lake commerce. Until it was dug, the lake fleets grew but slowly, and the steamers were but few and far between. Freight rates were high, and the schooners and

A VANISHING TYPE ON THE LAKES

sloops made but slow passages. From an old bill, of about 1835, we learn that freight rates between Detroit and Cleveland, or Lake Erie points and Buffalo, were about as follows: Flour, thirty cents a barrel; all grain, ten cents

a bushel; beef, pork, ashes, and whisky, thirteen cents a hundred pounds; skins and furs, thirty-one cents a hundred weight; staves, from Detroit to Buffalo, $6.25 a thousand. In 1831 there were but 111 vessels of all sorts on the lakes. In five years, the fleet had grown to 262, and in 1845, the year when the first steamer entered Lake Superior, to 493. In 1855, the year the "Soo" canal was opened, there were in commission 1196 vessels, steam and sail, on the unsalted seas. Then began the era of prodigious development, due chiefly to that canal which Henry Clay, great apostle as he was of internal improvements, said would be beyond the remotest range of settlements in the United States or in the moon.

At the head of Lake Superior are almost illimitable beds of iron ore which looks like rich red earth, and is scooped up by the carload with steam shovels. Tens of thousands of men are employed in digging this ore and transporting it to the nearest lake port—Duluth and West Superior being the largest shipping points. Railroads built and equipped for the single purpose of carrying the ore are crowded with rumbling cars day and night, and at the wharves during the eight or nine months of the year when navigation is open lie great steel ships, five hundred feet long, with a capacity of from six thousand to nine thousand tons of ore. Perhaps in no branch of marine architecture has the type best fitted to the need been so scientifically determined as in planning these ore boats. They are cargo carriers only, and all considerations of grace or beauty are rigidly eliminated from their design. The bows are high to meet and part the heavy billows of the tempestuous lakes, for they are run as late into the stormy fall and early winter season as the ice will permit. From the forward quarter the bulwarks are cut away, the high bow sheltering the forecastle with the

crews, while back of it rises a deck-house of steel, containing the officers' rooms, and bearing aloft the bridge and wheel-house. Three hundred feet further aft rises another steel deck-house, above the engine, and between extends the long, flat deck, broken only by hatches every few feet, battened down almost level with the deck floor. During the summer, all too short for the work the busy iron carriers have to do, these boats are run at the top of their speed, and on schedules that make the economy of each minute essential. So they are built in such fashion as to make loading as easy and as rapid as possible. Sometimes there are as many as fourteen or sixteen hatches in one of these great ships, into each of which while loading the ore chutes will be pouring their red flood, and out of each of which the automatic unloaders at Cleveland or Erie will take ten-ton bites of the cargo, until six or seven thousand tons of iron ore may be unloaded in eight hours. The hold is all one great store-room, no deck above the vessel's floor except the main deck. No water-tight compartments or bulkheads divide it as in ocean ships, and all the machinery is placed far in the stern. The vessel is simply a great steel packing-box, with rounded ends, made strong to resist the shock of waves and the impact of thousands of tons of iron poured in from a bin as high above the floor as the roof of a three-story building. With vessels such as these, the cost of carrying ore has been reduced below the level of freight charges in any part of the world.

Yet comfort and speed are by no means overlooked. The quarters of the officers and men are superior to those provided on most of the ocean liners, and vastly better than anything offered by the "ocean tramps." Many of the ships have special guest-cabins fitted up for their owners, rivalling the cabins *de luxe* of the ocean grey-

hounds. The speed of the newer ships will average from fourteen to sixteen knots, and one of them in a season will make as many as twenty round trips between Duluth and Cleveland. Often one will tow two great steel barges almost as large as herself, great ore tanks without machinery of any kind and mounting two slender masts chiefly for signaling purposes, but also for use in case of being cut adrift. For a time, the use of these barges, with their great stowage capacity in proportion to their total displacement, was thought to offer the cheapest way of carrying ore. One mining company went very heavily into building these craft, figuring that every steamer could tow two or three of them, giving thus for each engine and crew a load of perhaps twenty-four thousand tons. But, seemingly, this expectation has been disappointed, for while the barges already constructed are in active use, most of the companies have discontinued building them.

For a time it looked as if the favorite design for ore and coal-carrying ships might be the so-called "whaleback" type—which the lake sailors called "pigs" because of their blunt and snout-like bows. These craft are built of steel, with a low freeboard and a curved deck not unlike that of the submarine made familiar in the late war. The first of these ships, "the 101," had a curious history. Its plates were forged at Cleveland, O., its bow and stern built at Wilmington, Del., the ship was put together and launched at Duluth, Minn.; and the craft after service on the Lakes was taken to sea, around Cape Horn, and cast-a-way on the Pacific coast, near the State of Washington. The advantages of economy and efficiency claimed for the whalebacks must have failed to materialize for the type is no longer being built. The largest ever constructed was 430 feet over all, and with a capacity of 8,000 tons. One passenger vessel of this

type was built, but had no special advantages over the ordinary sort of excursion ship.

The iron traffic which has grown to such huge proportions, and resulted in the creation of a type of marine architecture especially adapted to its needs, began in 1856, when the steamer Ontonagon shipped 296 tons of iron ore at Duluth. To-day one ship of a fleet numbering hundreds will carry thirteen thousand tons, and make twenty round trips between the iron fields of Minnesota

THE "WHALEBACK"

and the ports on Lake Erie during the seven months of navigation.

These great ore carriers are excelled in impressiveness only by great battleships. Lacking the beauty or grace of true ocean liners they compel admiration for their size and power. Everything is sacrificed to carrying capacity and facility in loading and unloading. The engines are placed close to the stern, thus doing away with the long propeller shaft which the centrally placed

engines on ocean liners compels. Forward of the engine house is a long expanse of flat deck, broken only by hatch combings rising perhaps a foot above the level. There will be often 550 feet in the clear of this deck, 60 feet wide extending forward to the main deck house, or forecastle, which will rise 60 feet or more above the water, and houses the officers' quarters, chart room and wheel-house. Light spars only are carried for signalling purposes. Such a ship with engines of 2,000 horse-power, and a speed of 10 knots or even more, can be loaded with 13,000 tons of ore in two hours and a half, and unloaded with even more celerity. Speed counts for much on the Lakes where traffic is blocked by ice for five months of the year.

Duluth, whence is shipped most of the iron ore, has come to be the second port in the world in point of tonnage. In 1917 it was estimated that 700 tons of freight were loaded or unloaded at the Duluth-Superior docks every minute of a 24-hour day, throughout the season. The lake shipping handles more than 100,000,000 tons of freight annually, and at a cost which would stagger ocean shipping men by its cheapness. Prior to the war a rate of 98/100 of a cent per ton, per mile produced a profit for the lake shipowner. In 1918 the eastbound traffic through the canals at Sault Ste Marie aggregated 65,367,056 tons; westbound 19,310,513. The passengers carried exceeded 17,000 annually. Before this record the 10,000,000 tons annually of the Suez Canal sinks into a decided second place.

Although under pressure of the war-time emergency some wooden ships were built in Great Lakes shipyards during the years 1916-19 the great maritime industry there has been the construction of steel ships. So great have become the facilities of the lake yards that, save

for the physical conditions which bar the egress of large cargo ships from the Lakes to the ocean, they would be serious competitors for the shipbuilding trade of the world. Two canals to-day effect connection between the unsalted seas and tide water. The greater one, the New York barge canal, connecting Lake Erie and Lake Ontario with the Hudson River at Troy, is not designed for the accommodation of ships. Its depth is but 14 feet, and the bridges by which it is spanned—in the planning of which hostile railroad influences are believed to have had a hand—are too low to permit the passage of any save barges with a low freeboard. The other canal—the Welland—is a true ship canal, though of very inadequate capacity. It is owned by the Canadian Government and traverses Canadian territory only. Its locks fix arbitrarily the size of lake-built vessels that may pass from the Lakes to the sea. A length of 261 feet, and a beam of 42 feet 6 inches is the limit. Although the great yards at Chicago, Detroit and Cleveland are turning out magnificent ore-carriers of more than 13,000 tons displacement, ships designed for ocean use cannot be of more than 3,500 to 4,000 tons.

There is a certain pathos about the efforts of the lake builders and shipping men to reach the sea with their ships. The practice of cutting great steel vessels in two, closing up the severed ends with bulk-heads and sending them through the canal to be put together again at tide-water on the St. Lawrence has become so common as to attract no special attention. In 1918 the bow half of one ship and the after section of another were cast away in a gale with serious loss of life—disasters which surely deserve to rank with the most curious casualties of the sea. During the war steamers were built with this purpose in view, and carried as part of their

load the fabricated plates which would be used to lengthen them. About 95 feet was usually added to their length in this way. But the width of the docks permitted the passage of ships of 42 feet beam only. No process of reconstruction could economically increase this beam, and that in turn limited the extent to which the ships might be lengthened. A curious effort to overcome this situation was made in 1918 in the case of a ship that was both too long and too broad to pass the Welland locks. She was cut in two—thus reducing the length to practicable proportions. But the sections were still too broad. It was believed that if tilted on one side—or on their beam-ends as sailors would say—these sections would be narrow enough to pass through the docks, and not be too deep for the draught of the canal. The cutting and capsizing were done, but unfortunately this work was not completed before the severe winter weather of that region closed the canal to navigation. One section of the ship, however, was successfully put through the locks, thus demonstrating the feasibility of the plan. The second section will doubtless follow in the summer of 1919.

The steady and persistent efforts made to open a way for shipping from the Great Lakes to the sea affords the best possible evidence of the need for it. The producers of our great West, with its illimitable possibilities as a food-producing region must always look to foreign lands for much of their market. They beat against the barrier placed by nature at Niagara as a caged animal beats against the bars of its prison. History has shown many European peoples, shut off from the sea by diplomatic intrigue, rushing into war in order to secure access to the highway of nations. It has, therefore, come to be an axiom in the plans for the reconstruction of Europe that no people can safely be excluded from the coast. The

people of our Middle West are thus excluded by nature, and will not be content until the barrier is thrown down.

The economic advantage to our country of a deep waterway eastward from Lake Erie, so that ships drawing not less than 30 feet of water may go from Duluth to the open ocean is so great that the construction of such a public work cannot long be deferred. The Panama Canal for which our Government expended more than $400,000,000 can confer nothing like the benefit upon our people which such an outlet for our products would render. Except for the wholly mercenary and selfish opposition of the great railroads of the country, such a canal would long since have been built. Fearing that the Panama Canal would break their monopoly of transcontinental rates they fought that great public undertaking for decades. They have been fighting and still are fighting the construction of a "Lakes-to-the-Sea" canal by the same methods. It is asserted, and with some corroborative evidence, that the construction of the New York State barge canal was part of the railroad crusade against a true ship canal through the same territory. Surveys had been made showing the feasibility of a canal of 35 feet in depth from the Lakes to the head of deep water navigation on the Hudson. Legislation was offered in Congress providing for its construction at the joint cost of the nation and the State. Suddenly the barge canal proposition appeared in the New York legislature, and went through with a degree of ease that might well have aroused suspicion. After the expenditure of nearly $150,000,000 New York has a barge canal only 14 feet deep on which at present there is no considerable traffic, and which shipping men say will never lend itself to profitable operation. It is feared that the State will be slow to consider the expenditure of millions more on a real

ship canal. Nevertheless it is certain that in the early future this situation will be corrected despite railroad efforts to continue it. For that section of the country which would be benefited by the creation of a deep waterway to the sea will not be contented until it is attained. The New York barge canal will when that time comes not represent entirely wasted effort for any such channel would necessarily follow its line, and the work already done would be a step toward the creation of the greater waterway, even as the French work at Panama was of the utmost assistance in completing the American canal.

We may take the great bulk of the traffic of the Lakes as originating at Duluth at the head of Lake Superior. Thence are shipped now enormous quantities of iron ore, and wheat from the fertile regions extending for hundreds of miles about. The iron ore is mainly unloaded at northern Ohio ports for domestic use, but the wheat to a great extent goes on to Europe. It must be unloaded from the ships at Buffalo, loaded into cars or canal boats, to be rehandled at the docks in New York. The cost of these repeated transshipments almost equals the cost of carriage. With a ship canal to tide-water this cost would be averted.

What a canal may do to encourage commerce is shown by the record of the canal at Sault Ste Marie.

It had its origin in a gift of 750,000 acres of public lands from the United States Government to the State of Michigan. The State, in its turn, passed the lands on to a private company which built the canal. This work was wholly unsatisfactory, and very wisely the Government took the control of this artificial waterway out of private hands and assumed its management itself. At once it expended about $8,000,000 upon the enlarge-

ment and improvement of the canal. Scarcely was it opened before the ratio at which the traffic increased showed that it would not long be sufficient. Enlarged in 1881, it gave a capacity of from fourteen feet, nine inches to fiteen feet in depth, and with locks only four hundred feet in length. Even a ditch of this size proved of inestimable value in helping vessels to avoid the eighteen feet drop between Lake Superior and Lake Huron. By 1886 the tonnage which passed through the canal each year exceeded 9,000,000, and then for the first time this great waterway with a season limited to eight or nine months, exceeded in the volume of its traffic the great Suez Canal. But shippers at once began to complain of its dimensions. Vessels were constantly increasing both in length and in draught, and the development of the great iron fields gave assurance that a new and prodigious industry would add largely to the size of the fleet, which up to that time had mainly been employed in carrying grain. Accordingly the Government rebuilt the locks until they now are one hundred feet in width, twenty-one feet deep and twelve hundred feet long. Immediately vessels were built of a size which tests even this great capacity, and while the traffic through De Lessep's famous canal at Suez has for a decade remained almost stationary, being 9,308,152 tons in 1900, the traffic through the "Soo" has increased in almost arithmetical proportion every year, attaining in 1917 56,399,147 tons, carried in 21,233 vessels—or more than the combined tonnage of the Suez, Kiel and Manchester canals, though the "Soo" is closed four months in the year. Through the Detroit River passed in 1915 a tonnage of 65,280,425.

The Great Lakes fleet which in June, 1914, numbered 2,339 steam vessels of 2,523,517 tons has not gained greatly since that time. Every ship that could be taken

to salt water by hook or by crook has been put into international trade. Though the lake shipyards have been working overtime it has been mainly upon ships that might be put in international trade. Some of these may be returned to the fresh water seas but it is unlikely, for the traffic of these waterways demands a different type of craft.

Though the old salt may sneer at the freshwater sailor who scarcely need know how to box the compass, to whom the art of navigation is in the main the simple practise of steering from port to port guided by headlands and lights, who is seldom long out of sight of land, and never far from aid, yet the perils of the Lakes are quite as real as those which confront the ocean seaman, and the skill and courage necessary for withstanding them quite as great as his. The sailor's greatest safeguard in time of tempest is plenty of searoom. This the lake navigator never has. For him there is always the dreaded lee shore only a few miles away. Anchorage on the sandy bottom of the Lakes is treacherous, and harbors are but few and most difficult of access. Where the ocean sailor finds a great bay, perhaps miles in extent, entered by a gateway thousands of yards across, offering a harbor of refuge in time of storm, the lake navigator has to run into the narrow mouth of a river, or round under the lee of a government breakwater hidden from sight under the crested waves and offering but a precarious shelter at best.

For forty years it has been possible to say almost every year, "This is the greatest year in the history of the lake marine." For essentially it is a new and a growing factor in the industrial development of the United States. So far, from having been killed by the prodigious development of our railroad system, it has kept pace with that

system, and the years that have seen the greatest number of miles of railroad built, have witnessed the launching of the biggest lake vessels. A recent act of Congress prohibited to railroads the right to own and operate ships. This has already caused a change in ownership of lake vessels but does not seem likely to check new construction. There is every reason to believe that this growth will for a long time be persistent, that the climax has not yet been reached. For it is incredible that the Government will permit the barrier at Niagara to the commerce of these great inland seas to remain long unbroken. The richest coast in the world is that bordering on the Lakes. The cheapest ships in the world can there be built. Already the Government has spent its tens and scores of millions in providing waterways from the extreme northwest end to the southeastern extremity of this water system, and it is unbelievable that it shall long remain violently stopped there. New devices for digging canals, such as those employed in the Chicago drainage channel, and the new pneumatic lock, the power and capacity of which seem to be practically unlimited, have vastly decreased the cost of canal building, and multiplied amazingly the value of artificial waterways. As it is admitted that the greatness and the wealth of New York State are much to be credited to the Erie Canal, so the prosperity and populousness of the whole lake region will be enhanced when lake sailors and lake ships may pass unrestricted to the ocean and to the ports of the whole world.

It is little short of amazing how little informed the American people as a whole are as to the proportions attained by our lake shipping. We are impressed by the achievement of De Lesseps in opening, by his canal at Suez, a new and shorter route to India. We think and

read of Port Said, "the wickedest place in the world," as tourists say, and Aden, the hottest, finding romance in them because they are at the ends of this famous artificial waterway. The boast of our part in supplying the world with a canal at Panama at a cost of $400,000,000—it sounded big before the war altered our attitude toward money. When the Panama Canal was building tens of thousands of our people took the long and costly trip to the tropics to look upon the work and speculate upon the effect it would have on the trade routes of the world.

But we have at the Sault Ste. Marie a canal which, open for but seven months in the year, dwarfs the traffic of these two great inter-oceanic canals. And paralleling it the Canadian Government has constructed another of almost equal proportions. Though these canals year after year flows a steady stream of grain, which during the last three years has been the chief factor in keeping the people of Europe alive. More than 65,000,000 tons of shipping passed its locks in 1917. About 6,000,000 tons passed the Panama locks the same year, and 12,325,000 tons the Suez Canal during 1916. War reticence prevented the issuance of figures for the latter waterway for 1917.

We think of London, Liverpool and Hamburg—prior to Germany's suicidal war—as the great parts of the world. But in tonnage and number of clearances Duluth exceeds all but London. The "Pool of London," with its crowded shipping, has long been a theme for artists and for writers, who have never looked upon or thought of the spectacle when from a dozen to a score of great lake steamships are waiting or jockeying for place at the overcrowded docks of Duluth.

Crowded? The Pool of London? Why the Great

Lakes themselves are so overcrowded that years ago the Great Lakes Shipping Association took steps to avert the perils of collision by laying down arbitrary east and west routes for vessels under steam.

The years of the war saw the shipping industry on the Great Lakes at its apogee. It is true that the fleet was somewhat reduced by the removal of ships commandeered for ocean use, while the shipyards were busy almost exclusively upon vessels of a size suitable for passage through the Canadian canals to tidewater. But the great, long, cigar-shaped steamers carrying 13,000 tons of coal or ore, or 450,000 bushels of wheat, were pushed as never before. The iron and steel mills of Illinois, Ohio and Pennsylvania were eating up the red sandy ore of the Mesaba range, and converting it into cannon for our friends—and later for our own armies—shells, ship-plates and structural steel of every sort. The even hungrier people of Europe were crying aloud for our foodstuffs and the great granary of the Northwest was pouring its golden tribute into the steel coffers of the ships that carried it as far east as Buffalo—and would have taken it clear to Europe had the ship canal been ready that must surely come at no distant date. A writer in the *Outlook,* who made an especial study of the part played by lake shipping in feeding Europe under the Hoover regime, sets forth these figures:

"The stream of ore and grain and coal pouring through the locks at the Soo, when composed into seasonal figures, is enormous. Lake freighters are monsters, some of them carrying as much as 16,000 tons at a load, and they are locking up and down at few-minute intervals day and night all season long, except during the thickest fogs. Their combined tonnage, with the present estimated shortage of food, would supply Europe in one

season with enough white bread to last her for fifteen years! Ninety million tons in a season—the most heroic figures dealt in by the Department of Commerce adding machines!

"Last spring, in spite of the most terrific winter they ever had up there, the locks were opened four days earlier than in the Spring of 1917. During that April four tons of cargo went eastward through the Soo. But last April somebody got behind and pushed hard. Channels were bored open, ships in Lake Superior harbors were coaled and blowing off steam, cargoes were waiting for them in the elevators and in the bins. As a result, for April, 1918, are stacked these figures:

"1,474,698 bushels of grain.

"4,045,047 bushels of wheat.

"136,436 tons of iron ore."

That, mark you, was the fruit merely of opening navigation a few days ahead of time. One can estimate from it what the lake fleet is capable of in the busy season of midsummer.

Much of the tremendous freight-moving capacity of the lake shipping is due to the marvelous apparatus for loading and discharging ships—and the fact that the ships are designed with special view to the celerity of this service. At Duluth the record for loading a grain ship has been 435,000 bushels in two hours and forty minutes. At the other end of the route 456,000 bushels have been deftly withdrawn from the great steel box in less than fourteen hours. At Lake Erie ports they ship coal for the Northwest and huge machines pick up gondolas of coal, holding 100 tons each, swing them through the air and dump their contents into the hold of the waiting vessel. Getting it out again is a harder

job, but Duluth has unloaded 10,074 tons of coal in less than seven hours.

Of course the high tonnage of a port like Duluth, or of a passage like the Lime Kiln Channel below Detroit, is due to the fact that the same boat makes many round trips in the course of a month. Duluth has more clearances than Liverpool, but not by so many different vessels. A 13,000-ton ship will pass the Lime Kiln loaded with grain for Buffalo, and be back, headed west with a new cargo of coal in five days. Naturally, in the tonnage of Buffalo or Duluth she will count for much more in the course of a season than a ship pulling forth from Liverpool for a month's run to Asiatic waters.

We find that on the lakes expedition in loading and unloading are qualities sought in marine architecture and in the management of ships. Most of the big carriers are "liners" making regular trips between docks owned by the same companies, and the latter are equipped with handling facilities that make the famous docks of Hamburg seem second rate in comparison. It is estimated that delay costs a loaded ship $10 a minute, and therefore everything—the ship herself, the locks and canals through which she passes, and the docks to which she ties up for cargo—are designed to avert delay. The Government is keenly alive to this need. The new Livingstone Channel below Detroit was cut out of the limestone bed of the river in order that the lines of vessels that every season waited to get across the neighboring Lime Kiln crossing might be diverted. The new 1,000-foot locks at the Soo were not completed before busy seasons saw as many as forty ships waiting to get through the old locks. Even today it sometimes happens at Buffalo, Cleveland and Detroit that eager vessel men jockey and jostle in the effort to get their ships up

to the overcrowded docks, much as if they were trying to park an automobile at the curb of a crowded theater street.

The future of lake shipping and shipbuilding? There seems to be no reason why it should lag behind the past. Europe will presently begin to raise much of its own food again, and the rush of the grain carriers will be perhaps less furious, and the need to extend seasons at both ends beyond the danger point will be past. But always the great Northwest of the United States and Canada will be the granary of the crowded East, and the European world. The rich iron deposits of the Mesaba region seem inexhaustible. For decades, probably centuries, to come they will keep the furnaces of Illinois, Pennsylvania and Ohio stocked with ore. For these products the lakes already afford the most expeditious and economical road to market. And inevitably, as surely as any obvious development of the industrial field of man can be foreseen, the ship canal from the lakes to the sea will be built. Already men know that it can be done more cheaply than was the Panama Canal. The nation has learned through war's dread needs to think in billions and not in millions. No longer will the money needed to cut the ridge which nature raised between Lake Erie and the Hudson be grudged. An improvement which, costing less than our unhappy governmental experiment in aviation, will bring increaesd prosperity to millions of our people, and open new oceans to the commerce of all peoples cannot long be deferred. And with it concluded lake shipyards and lake sailors will assume first place in the records of the nation's merchant marine.

CHAPTER VIII

THE MISSISSIPPI AND TRIBUTARY RIVERS — THE CHANGING PHASES OF THEIR SHIPPING — RIVER NAVIGATION AS A NATION-BUILDING FORCE — THE VALUE OF SMALL STREAMS — WORK OF THE OHIO COMPANY — AN EARLY PROPELLER — THE FRENCH FIRST ON THE MISSISSIPPI — THE SPANIARDS AT NEW ORLEANS — EARLY METHODS OF NAVIGATION — THE FLATBOAT, THE BROADHORN, AND THE KEELBOAT — LIFE OF THE RIVERMEN — PIRATES AND BUCCANEERS — LAFITTE AND THE BARATARIANS — THE GENESIS OF THE STEAMBOATS — CAPRICIOUS RIVER — FLUSH TIMES IN NEW ORLEANS — RAPID MULTIPLICATION OF STEAMBOATS — RECENT FIGURES ON RIVER SHIPPING — COMMODORE WHIPPLE'S EXPLOIT — THE MEN WHO STEERED THE STEAMBOATS — THEIR TECHNICAL EDUCATION — THE SHIPS THEY STEERED — FIRES AND EXPLOSIONS — HEROISM OF THE PILOTS — THE RACERS.

IT is the ordinary opinion, and one expressed too often in publications which might be expected to speak with some degree of accuracy, that river transportation in the United States is a dying industry. We read every now and then of the disappearance of the magnificent Mississippi River steamers, and the magazines not infrequently treat their readers to glowing stories of what is called the "flush" times on the Mississippi, when the gorgeousness of the passenger accommodations, the lavishness of the table, the prodigality of the gambling, and the mingled magnificence and outlawry of life on the great packets made up a picturesque and romantic phase of American life. It is true that much of the picturesqueness and the romance has departed long since. The great river no

longer bears on its turbid bosom many of the towering castellated boats built to run, as the saying was, on a heavy dew, but still carrying their tiers upon tiers of ivory-white cabins high in air. The time is past when the river was the great passenger thoroughfare from St. Louis to New Orleans. Some few packets still ply upon its surface, but in the main the passenger traffic has been diverted to the railroads which closely parallel its channel on either side. The American travels much, but he likes to travel fast, and for passenger traffic, except on a few routes where special conditions obtain, the steamboat has long since been outclassed by the railroads.

Yet despite the disappearance of its spectacular conditions the water traffic on the rivers of the Mississippi Valley is greater now than at any time in its history. Its methods only have changed. Instead of gorgeous packets crowded with a gay and prodigal throng of travelers for pleasure, we now find most often one dingy, puffing steamboat, probably with no passenger accommodations at all, but which pushes before her from Pittsburg to New Orleans more than a score of flatbottomed, square-nosed scows, aggregating perhaps more than an acre of surface, and heavy laden with coal. Such a tow—for "tow" it is in the river vernacular, although it is pushed—will transport more in one trip than would suffice to load six heavy freight trains. Not infrequently the barges or scows will number more than thirty, carrying more than 1000 tons each, or a cargo exceeding in value $100,000. During the season when navigation is open on the Ohio and its tributaries, this traffic is pursued without interruption. Through it and through the local business on the lower Mississippi, and the streams which flow into it, there is built up a tonnage which shows the freight movement, at least, on the great rivers, to exceed, even in

these days of railroads, anything recorded in their history.

No physical characteristic of the United States has contributed so greatly to the nationalization of the country and its people, as the topography of its rivers. From the very earliest days they have been the pathways along which proceeded exploration and settlement. Our forefathers, when they found the narrow strip of land along the Atlantic coast which they had at first occupied, becoming crowded, according to their ideas at the time, began working westward, following the river gaps. Up the Hudson and westward by the Mohawk, up the Susquehanna and the Potomac, carrying around the falls that impeded the course of those streams, trudging over the mountains, and building flatboats at the headwaters of the Ohio, they made their way west. Some of the most puny streams were utilized for water-carriers, and the traveler of to-day on certain of the railroads through western New York and Pennsylvania, will be amazed to see the remnants of canals, painfully built in the beds of brawling streams, that now would hardly float an Indian birch-bark canoe. In their time these canals served useful purposes. The stream was dammed and locked every few hundred yards, and so converted into a placid waterway with a flight of mechanical steps, by which the boats were let down to, or raised up from tidewater. To-day nothing remains of most of these works of engineering, except masses of shattered masonry. For the railroads, using the river's bank, and sometimes even part of the retaining walls of the canals for their roadbeds, have shrewdly obtained and swiftly employed authority to destroy all the fittings of these waterways which might, perhaps, at some time, offer to their business a certain rivalry.

The corporation known as the Ohio Company, with a

great purchase of land from Congress in 1787, by keen advertising, and the methods of the modern real-estate boomer, started the tide of emigration and the fleet of boats down the Ohio. The first craft sent out by this corporation was named, appropriately enough, the "Mayflower." She drifted from Pittsburg to a spot near the mouth of the Muskingum river. Soon the immigrants began to follow by scores, and then by thousands. Mr. McMaster has collected some contemporary evidence of their numbers. One man at Fort Pitt saw fifty flatboats set forth between the first of March and the middle of April, 1787. Between October, 1786, and May, 1787—the frozen season when boats were necessarily infrequent—the adjutant at Fort Harmer counted one hundred and seventy-seven flat-boats, and estimated they carried twenty-seven hundred settlers. A shabby and clumsy fleet it was, indeed, with only enough seamanship involved to push off a sand-bar, but it was a great factor in the upbuilding of the nation. And a curious fact is that the voyagers on one of these river craft hit upon the principle of the screw-propeller, and put it to effective use. The story is told in the diary of Manasseh Cutler, a member of the Ohio Company, who writes: "Assisted by a number of people, we went to work and constructed a machine in the form of a screw, with short blades, and placed it in the stern of the boat, which we turned with a crank. It succeeded to perfection, and I think it a very useful discovery." But the discovery was forgotten for nearly three-quarters of a century, until John Ericsson rediscovered and utilized it.

Once across the divide, the early stream of immigration took its way down the Ohio River to the Mississippi. There it met the outposts of French power, for the French burst open that great river, following their missionaries,

Marquette and Joliet, down from its headwaters in Wisconsin, or pressing up from their early settlements at New Orleans. Doubtless, if it had not been that the Mississippi afforded the most practicable, and the most useful highway from north to south, the young American people would have had a French State to the westward of them until they had gone much further on the path toward national manhood. But the navigation of the Mississippi and its tributaries was so rich a prize, that it stimulated alike considerations of individual self-interest and national ambition. From the day when the first flatboat made its way from the falls of the Ohio to New Orleans, it was the fixed determination of all people living by the great river, or using it as a highway for commerce, that from its headwaters to its mouth it should be a purely American stream. It was in this way that the Mississippi and its tributaries proved to be, as I have said, a great influence in developing the spirit of coherent nationality among the people of the young nation.

Indeed, no national Government could be of much value to the farmers and trappers of Kentucky and Tennessee that did not assure them the right to navigate the Mississippi to its mouth, and find there a place to trans-ship their goods into ocean-going vessels. From the Atlantic seaboard they were shut off by a wall, that for all purpose of export trade was impenetrable. The swift current of the rivers beat back their vessels, the towering ranges of the Alleghanies mocked at their efforts at road building. From their hills flowed the water that filled the Father of Waters and his tributaries. Nature had clearly designed this for their outlet. As James Madison wrote: "The Mississippi is to them everything. It is the Hudson, the Delaware, the Potomac, and all the navigable waters of the Atlantic coast formed into one stream." Yet, when

the first trader, in 1786, drifted with his flatboat from Ohio down to New Orleans, thus entering the confines of Spanish territory, he was seized and imprisoned, his goods were taken from him, and at last he was turned loose, penniless, to plod on foot the long way back to his home, telling the story of his hardships as he went along. The name of that man was Thomas Amis, and after his case became known in the great valley, it ceased to be a matter of doubt that the Americans would control the Mississippi. He was in a sense the forerunner of Jefferson and Jackson, for after his time no intelligent statesman could doubt that New Orleans must be ours, nor any soldier question the need for defending it desperately against any foreign power. The story of the way in which Gen. James Wilkinson, by intrigue and trickery, some years later secured a partial relaxation of Spanish vigilance, can not be told here, though his plot had much to do with opening the great river.

The story of navigation on the Mississippi River, is not without its elements of romance, though it does not approach in world interest the story of the achievements of the New England mariners on all the oceans of the globe. Little danger from tempest was encountered here. The natural perils to navigation were but an ignoble and unromantic kind—the shifting sand-bar and the treacherous snag. Yet, in the early days, when the flatboats were built at Cincinnati or Pittsburg, with high parapets of logs or heavy timber about their sides, and manned not only with men to work the sweeps and hold the steering oar, but with riflemen, alert of eye, and unerring of aim, to watch for the lurking savage on the banks, there was peril in the voyage that might even affect the stout nerves of the hardy navigator from New Bedford or Nantucket. For many long years in the early days of our country's

FLATBOATS MANNED WITH RIFLEMEN.

history, the savages of the Mississippi Valley were always hostile, continually enraged. The French and the English, bent upon stirring up antagonism to the growing young nation, had their agents persistently at work awakening Indian hostility, and, indeed, it is probable that had this not been the case, the rough and lawless character of the American pioneers, and their entire indifference to the rights of the Indians, whom they were bent on displacing, would have furnished sufficient cause for conflict.

First of the craft to follow the Indian canoes and the bateaux of the French missionaries down the great rivers, was the flatboat—a homely and ungraceful vessel, but yet one to which the people of the United States owe, perhaps, more of real service in the direction of building up a great nation than they do to Dewey's "Olympia," or Schley's "Brooklyn." A typical flatboat of the early days of river navigation was about fifty-five feet long by sixteen broad. It was without a keel, as its name would indicate, and drew about three feet of water. Amidships was built a rough deck-house or cabin, from the roof of which extended on either side, two long oars, used for directing the course of the craft rather than for propulsion, since her way was ever downward with the current, and dependent upon it. These great oars seemed to the fancy of the early flatboat men, to resemble horns, hence the name "broadhorns," sometimes applied to the boats. Such a boat the settler would fill with household goods and farm stock, and commit himself to the current at Pittsburg. From the roof of the cabin that housed his family, cocks crew and hens cackled, while the stolid eyes of cattle peered over the high parapet of logs built about the edge for protection against the arrow or bullet of the wandering redskin. Sometimes several families would combine to build one ark. Drifting slowly down the river—

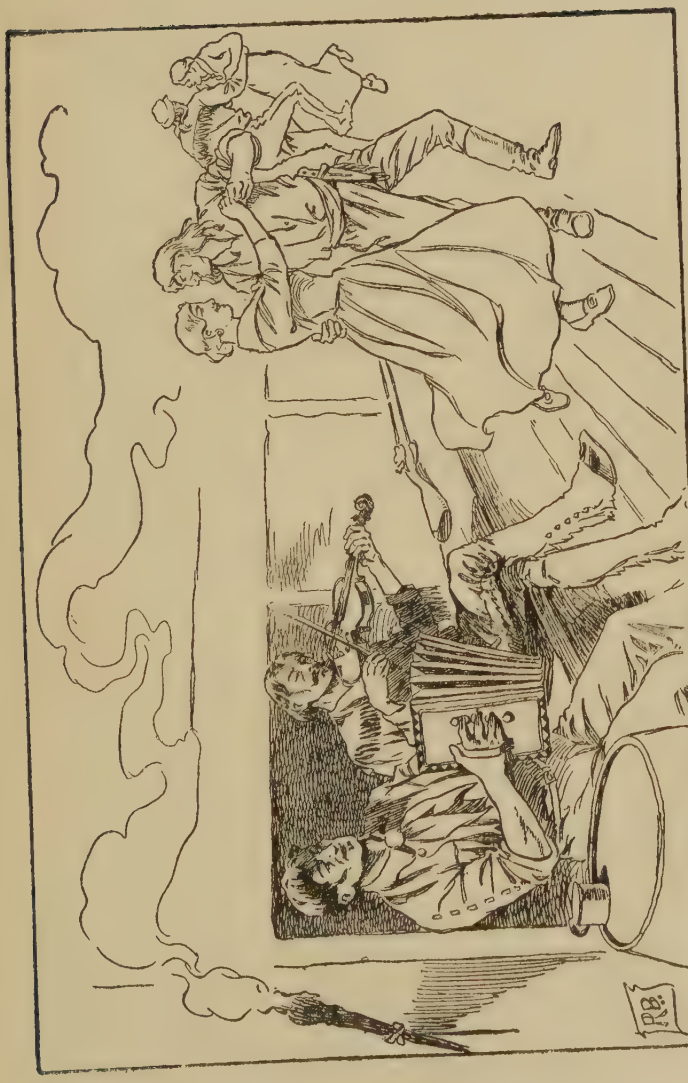
the voyage from Pittsburg to the falls of the Ohio, where Louisville now stands, requiring with the best luck, a week or ten days—the shore on either hand would be closely scanned for signs of unusual fertility, or for the opening of some small stream suggesting a good place to "settle." When a spot was picked out the boat would be run aground, the boards of the cabin erected skilfully into a hut, and a new outpost of civilization would be established. As these settlements multiplied, and the course of emigration to the west and southwest increased, river life became full of variety and gaiety. In some years more than a thousand boats were counted passing Marietta. Several boats would lash together and make the voyage to New Orleans, which sometimes occupied months, in company. There would be frolics and dances, the notes of the violin—an almost universal instrument among the flatboat men—sounded across the waters by night to the lonely cabins on the shores, and the settlers not infreqently would put off in their skiffs to meet the unknown voyagers, ask for the news from the east, and share in their revels. Floating shops were established on the Ohio and its tributaries—flatboats, with great cabins fitted with shelves and stocked with cloth, ammunition, tools, agricultural implements, and the ever-present whisky, which formed a principal staple of trade along the rivers. Approaching a clump of houses on the bank, the amphibious shopkeeper would blow lustily upon a horn, and thereupon all the inhabitants would flock down to the banks to bargain for the goods that attracted them. As the population increased the floating saloon and the floating gambling house were added to the civilized advantages the river bore on its bosom. Trade was long a mere matter of barter, for currency was seldom seen in these outlying settlements. Skins and agricultural products

were all the purchasers had to give, and the merchant starting from Pittsburg with a cargo of manufactured goods, would arrive at New Orleans, perhaps three months later, with a cabin filled with furs and a deck piled high with the products of the farm. Here he would dispose of his cargo, perhaps for shipment to Europe, sell his flatboat for the lumber in it, and begin his painful way back again to the head of navigation.

The flatboat never attempted to return against the stream. For this purpose keel-boats or barges were used, great hulks about the size of a small schooner, and requiring twenty-five men at the poles to push one painfully up stream. Three methods of propulsion were employed. The "shoulder pole," which rested on the bottom, and which the boatman pushed, walking from bow to stern as he did so; tow-lines, called cordelles, and finally the boat was drawn along by pulling on overhanging branches. The last method was called "bushwhacking." These became in time the regular packets of the rivers, since they were not broken up at the end of the voyage and required trained crews for their navigation. The bargemen were at once the envy and terror of the simple folk along the shores. A wild, turbulent class, ready to fight and to dance, equally enraptured with the rough scraping of a fiddle by one of their number, or the sound of the war-whoop, which promised the only less joyous diversion of a fight, they aroused all the inborn vagrant tendencies of the riverside boys, and to run away with a flatboat became, for the Ohio or Indiana lad, as much of an ambition as to run away to sea was for the boy of New England. It will be remembered that Abraham Lincoln for a time followed the calling of a flatboatman, and made a voyage to New Orleans, on which he first saw slaves, and later invented a device for lifting flatboats over

sand-bars, the model for which is still preserved at Washington, though the industry it was designed to aid is dead. Pigs, flour, and bacon, planks and shingles, ploughs, hoes, and spades, cider and whisky, were among the simple articles dealt in by the owners of the barges. Their biggest market was New Orleans, and thither most of their food staples were carried, but for agricultural implements and whisky there was a ready sale all along the route. Tying up to trade, or to avoid the danger of night navigation, the boatmen became the heroes of the neighborhood. Often they invited all hands down to their boat for a dance, and by flaring torches to the notes of accordion and fiddle, the evening would pass in rude and harmless jollity, unless too many tin cups or gourds of fiery liquor excited the always ready pugnacity of the men. They were ready to brag of their valor, and to put their boasts to the test. They were "half horse, half alligator," according to their own favorite expression, equally prepared with knife or pistol, fist, or the trained thumb that gouged out an antagonist's eye, unless he speedily called for mercy. "I'm a Salt River roarer!" bawled one in the presence of a foreign diarist. "I can outrun, outjump, throw down, drag out and lick any man on the river! I love wimmen, and I'm chock full of fight!" In every crew the "best" man was entitled to wear a feather or other badge, and the word "best" had no reference to moral worth, but merely expressed his demonstrated ability to whip any of his shipmates. They had their songs, too, usually sentimental, as the songs of rough men are, that they bawled out as they toiled at the sweeps or the pushpoles. Some have been preserved in history:

"It's oh! As I was walking out,
One morning in July,



"THE EVENING WOULD PASS IN RUDE AND HARMLESS JOLLITY."

I met a maid who axed my trade.
'A flatboatman,' says I.

"And it's oh! She was so neat a maid
That her stockings and her shoes
She toted in her lily-white hands,
For to keep them from the dews."

Just below the mouth of the Wabash on the Ohio was the site of Shawneetown, which marked the line of division between the Ohio and the Mississippi trade. Here goods and passengers were debarked for Illinois, and here the Ohio boatmen stopped before beginning their return trip. Because of the revels of the boatmen, who were paid off there, the place acquired a reputation akin to that which Port Said, at the northern entrance to the Suez Canal, now holds. It held a high place in river song and story.

"Some row up, but we row down,
All the way to Shawneetown.
Pull away, pull away,"

was a favorite chorus.

Natchez, Tennessee, held a like unsavory reputation among the Mississippi River boatmen, for there was the great market in which were exchanged northern products for the cotton, yams, and sugar of the rich lands of the South.

For food on the long voyage, the boatmen relied mostly on their rifles, but somewhat on the fish that might be brought up from the depths of the turbid stream, and the poultry and mutton which they could secure from the settlers by barter, or not infrequently, by theft. Wild geese were occasionally shot from the decks, while a few hours' hunt on shore would almost certainly bring reward in the shape of wild turkey or deer. A somewhat

archaic story among river boatmen tells of the way in which "Mike Fink," a famous character among them, secured a supply of mutton. Seeing a flock of sheep grazing near the shore, he ran his boat near them, and rubbed the noses of several with Scotch snuff. When the poor brutes began to caper and sneeze in dire discomfort, the owner arrived on the scene, and asked anxiously what could ail them. The bargeman, as a traveled person, was guide, philosopher, and friend to all along the river, and so, when informed that his sheep were suffering from black murrain, and that all would be infected unless those already afflicted were killed, the farmer unquestioningly shot those that showed the strange symptoms, and threw the bodies into the river, whence they were presently collected by the astute "Mike," and turned into fair mutton for himself and passengers. Such exploits as these added mightily to the repute of the rivermen for shrewdness, and the farmer who suffered received scant sympathy from his neighbors.

But the boatmen themselves had dangers to meet, and robbers to evade or to outwit. At any time the lurking Indian on the banks might send a death-dealing arrow or bullet from some thicket, for pure love of slaughter. For a time it was a favorite ruse of hostiles, who had secured a white captive, to send him alone to the river's edge, under threat of torture, there to plead with outstretched hands for aid from the passing raft. But woe to the mariner who was moved by the appeal, for back of the unfortunate, hidden in the bushes, lay ambushed savages, ready to leap upon any who came ashore on the errand of mercy, and in the end neither victim nor decoy escaped the fullest infliction of redskin barbarity. There were white outlaws along the rivers, too; land pirates ready to rob and murder when opportunity offered, and as the

Spanish territory about New Orleans was entered, the dangers multiplied. The advertisement of a line of packets sets forth:

"No danger need be apprehended from the enemy, as every person whatever will be under cover, made proof against rifle or musket balls, and convenient portholes for firing out of. Each of the boats are armed with six pieces, carrying a pound ball, also a number of muskets, and amply supplied with ammunition, strongly manned with choice hands, and masters of approved knowledge."

The English of the advertisement is not of the most luminous character, yet it suffices to tell clearly enough to any one of imagination, the story of some of the dangers that beset those who drifted from Ohio to New Orleans.

The lower reaches of the Mississippi River bore among rivermen, during the early days of the century, very much such a reputation as the Spanish Main bore among the peaceful mariners of the Atlantic trade. They were the haunts of pirates and buccaneers, mostly ordinary cheap freebooters, operating from the shore with a few skiffs, or a lugger, perhaps, who would dash out upon a passing vessel, loot it, and turn it adrift. But one gang of these river pirates so grew in power and audacity, and its leaders so ramified their associations and their business relations, as for a time to become a really influential factor in the government of New Orleans, while for a term of years they even put the authority of the United States at nought. The story of the brothers Lafitte and their nest of criminals at Barataria, is one of the most picturesque in American annals. On a group of those small islands crowned with live-oaks and with fronded palms, in that strange waterlogged country to the southwest of the Crescent City, where the sea, the bayou, and the marsh fade one into the other until the line of demarkation

can scarcely be traced, the Lafittes established their colony. There they built cabins and storehouses, threw up earthworks, and armed them with stolen cannon. In time the plunder of scores of vessels filled the warehouses with the goods of all nations, and as the wealth of the colony grew its numbers increased. To it were attracted the adventurous spirits of the creole city. Men of Spanish and of French descent, negroes, and quadroons, West Indians from all the islands scattered between North and South America, birds of prey, and fugitives from justice of all sorts and kinds, made that a place of refuge. They brought their women and children, and their slaves, and the place became a small principality, knowing no law save Lafitte's will. With a fleet of small schooners the pirates would sally out into the Gulf and plunder vessels of whatever sort they might encounter. The road to their hiding-place was difficult to follow, either in boats or afoot, for the tortuous bayous that led to it were intertwined in an almost inextricable maze, through which, indeed, the trained pilots of the colony picked their way with ease, but along which no untrained helmsman could follow them. If attack were made by land, the marching force was confronted by impassable rivers and swamps; if by boats, the invaders pressing up a channel which seemed to promise success, would find themselves suddenly in a blind alley, with nothing to do save to retrace their course. Meanwhile, for the greater convenience of the pirates, a system of lagoons, well known to them, and easily navigated in luggers, led to the very back door of New Orleans, the market for their plunder. Of the brothers Lafitte, one held state in the city as a successful merchant, a man not without influence with the city government, of high standing in the business community, and in thoroughly good repute. Yet he was, in fact, the agent

for the pirate colony, and the goods he dealt in were those which the picturesque ruffians of Barataria had stolen from the vessels about the mouth of the Mississippi River. The situation persisted for nearly half a score of years. If there were merchants, importers and ship-owners in New Orleans who suffered by it, there were others who profited by it, and it has usually been the case that a crime or an injustice by which any considerable number of people profit, becomes a sort of vested right, hard to disturb. And, indeed, the Baratarians were not without a certain rude sense of patriotism and loyalty to the United States, whose laws they persistently violated. For when the second war with Great Britain was declared and Packenham was dispatched to take New Orleans, the commander of the British fleet made overtures to Lafitte and his men, promising them a liberal subsidy and full pardon for all past offenses, if they would but act as his allies and guide the British invaders to the most vulnerable point in the defenses of the Crescent City. The offer was refused, and instead, the chief men of the pirate colony went straightway to New Orleans to put Jackson on his guard, and when the opposing forces met on the plains of Chalmette, the very center of the American line was held by Dominique Yon, with a band of his swarthy Baratarians, with howitzers which they themselves had dragged from their pirate stronghold to train upon the British. Many of us, however law-abiding, will feel a certain sense that the romance of history would have been better served, if after this act of patriotism, the pirates had been at least peacefully dispersed. But they were wedded to their predatory life, returned with renewed zeal to their piracies, and were finally destroyed by the State forces and a United States naval expedition, which burned their settlement, freed their slaves, razed their fortifica-

tions, confiscated their cannon, killed many of their people, and dispersed the rest among the swamps and forests of southern Louisiana.

In 1809 a New York man, by name Nicholas J. Roosevelt, set out from Pittsburg in a flatboat of the usual type, to make the voyage to New Orleans. He carried no cargo of goods for sale, nor did he convey any band of intended settlers, yet his journey was only second in importance to the ill-fated one, in which the luckless Amis proved that New Orleans must be United States territory, or the wealth of the great interior plateau would be effectively bottled up. For Roosevelt was the partner of Fulton and Livingston in their new steamboat enterprise, having himself suggested the vertical paddle-wheel, which for more than a half a century was the favorite means of utilizing steam power for the propulsion of boats. He was firm in the belief that the greatest future for the steamboat was on the great rivers that tied together the rapidly growing commonwealths of the middle west, and he undertook this voyage for the purpose of studying the channel and the current of the rivers, with the view to putting a steamer on them. Wise men assured him that on the upper river his scheme was destined to failure. Could a boat laden with a heavy engine be made of so light a draught as to pass over the shallows of the Ohio? Could it run the falls at Louisville, or be dragged around them as the flatboats often were? Clearly not. The only really serviceable type of river craft was the flatboat, for it would go where there was water enough for a muskrat to swim in, would glide unscathed over the concealed snag or, thrusting its corner into the soft mud of some protruding bank, swing around and go on as well stern first as before. The flatboat was the sum of human ingenuity applied to river navigation. Even barges were proving

failures and passing into disuse, as the cost of poling them upstream was greater than any profit to be reaped from the voyage. Could a boat laden with thousands of pounds of machinery make her way northward against that swift current? And if not, could steamboat men be continually taking expensive engines down to New Orleans and abandoning them there, as the old-time river men did their rafts and scows? Clearly not. So Roosevelt's appearance on the river did not in any way disquiet the flatboatmen, though it portended their disappearance as a class. Roosevelt, however, was in no wise discouraged. Week after week he drifted along the Ohio and Mississippi, taking detailed soundings, studying the course of the current, noting the supply of fuel along the banks, observing the course of the rafts and flatboats as they drifted along at the mercy of the tide. Nothing escaped his attention, and yet it may well be doubted whether the mass of data he collected was in fact of any practical value, for the great river is the least understandable of streams. Its channel is as shifting as the mists above Niagara. Where yesterday the biggest boat on the river, deep laden with cotton, might pass with safety, there may be to-day a sand-bar scarcely hidden beneath the tide. Its banks change over night in form and in appearance. In time of flood it cuts new channels for itself, leaving in a few days river towns far in the interior, and suddenly giving a water frontage to some plantation whose owner had for years mourned over his distance from the river bank. Capricious and irresistible, working insidiously night and day, seldom showing the progress of its endeavors until some huge slice of land, acres in extent, crumbles into the flood, or some gully or cut-off all at once appears as the main channel, the Mississippi, even now when the Government is at all times on the alert to

hold it in bounds, is not to be lightly learned nor long trusted. In Roosevelt's time, before the days of the river commission, it must have been still more difficult to comprehend. Nevertheless, the information he collected, satisfied him that the stream was navigable for steamers, and his report determined his partners to build the pioneer craft at Pittsburg. She was completed, "built after the fashion of a ship with portholes in her side," says a writer of the time, dubbed the "Orleans," and in 1812 reached the city on the sodden praires near the mouth of the Mississippi, whose name we now take as a synonym for quaintness, but which at that time had seemingly the best chance to become a rival of London and Liverpool, of any American town. For just then the great possibilities of the river highway were becoming apparent. The valley was filling up with farmers, and their produce sought the shortest way to tide-water. The streets of the city were crowded with flatboatmen, from Indiana, Ohio, and Kentucky, and with sailors speaking strange tongues, and gathered from all the ports of the world. At the broad levee floated the ships of all nations. All manual work was done by the negro slaves, and already the planters were beginning to show signs of that prodigal prosperity, which, in the flush times, made New Orleans the gayest city in the United States. In 1813 Jackson put the final seal on the title-deeds to New Orleans, and made the Mississippi forever an American river by defeating the British just outside the city's walls, and then river commerce grew apace. In 1817 fifteen hundred flatboats and five hundred barges tied up to the levee. By that time the steamboat had proved her case, for the "New Orleans" had run for years between Natchez and the Louisiana city, charging a fare of eighteen dollars for the down, and twenty-five dollars for the up trip, and earning for her

owners twenty thousand dollars profits in one year. She was snagged and lost in 1814, but by that time others were in the field, first of all the "Comet," a stern-wheeler of twenty-five tons, built at Pittsburg, and entering the New Orleans-Natchez trade in 1814. The "Vesuvius," and the "Aetna"—volcanic names which suggested the explosive end of too many of the early boats—were next in the field, and the latter won fame by being the first boat to make the up trip from New Orleans to Louisville. Another steamboat, the "Enterprise," carried a cargo of powder and ball from Pittsburg to General Jackson at New Orleans, and after some service on southern waters, made the return trip to Louisville in twenty-five days. This was a great achievement, and hailed by the people of the Kentucky town as the certain forerunner of commercial greatness, for at one time there were tied to the bank the "Enterprise" from New Orleans, the "Despatch" from Pittsburg, and the "Kentucky Elizabeth" from the upper Kentucky River. Never had the settlement seemed to be so thoroughly in the heart of the continent. Thereafter river steamboating grew so fast that by 1819 sixty-three steamers, of varying tonnage from twenty to three hundred tons, were plying on the western rivers. Four had been built at New Orleans, one each at Philadelphia, New York, and Providence, and fifty-six on the Ohio. The upper reaches of the Mississippi still lagged in the race, for most of the boats turned off up the Ohio River, into the more populous territory toward the east. It was not until August, 1817, that the "General Pike," the first steamer ever to ascend the Mississippi River above the mouth of the Ohio, reached St. Louis. No pictures, and but scant descriptons of this pioneer craft, are obtainable at the present time. From old letters it is learned that she was built on the model of a barge, with her cabin situated

on the lower deck, so that its top scarcely showed above the bulwarks. She had a low-pressure engine, which at times proved inadequate to stem the current, and in such a crisis the crew got out their shoulder poles and pushed her painfully up stream, as had been the practice so many years with the barges. At night she tied up to the bank. Only one other steamer reached St. Louis in the same twelve months. By way of contrast to this picture of the early beginnings of river navigation on the upper Mississippi, we may set over some facts drawn from recent official publications concerning the volume of river traffic, of which St. Louis is now the admitted center. In 1890 11,000,000 passengers were carried in steamboats on rivers of the Mississippi system. The Ohio and its tributaries, according to the census of that year, carried over 15,000,000 tons of freight annually, mainly coal, grain, lumber, iron, and steel. The Mississippi carries about the same amount of freight, though on its turbid tide, cotton and sugar, in no small degree, take the place of grain and the products of the furnaces and mills.

But it was a long time before steam navigation approached anything like these figures, and indeed, many years passed before the flatboat and the barge saw their doom, and disappeared. In 1821, ten years after the first steamboat arrived at New Orleans, there was still recorded in the annals of the town, the arrival of four hundred and forty-one flatboats, and one hundred and seventy-four barges. But two hundred and eighty-seven steamboats also tied up to the levee that year, and the end of the flatboat days was in sight. Ninety-five of the new type of vessels were in service on the Mississippi and its tributaries, and five were at Mobile making short voyages on the Mississippi Sound and out into the Gulf. They were but poor types of vessels at best. At first the

shortest voyage up the river from New Orleans to Shippingport—then a famous landing, now vanished from the map—was twenty-two days, and it took ten days to come down. Within six years the models of the boats and the power of the engines had been so greatly improved that the up trip was made in twelve days, and the down in six. Even the towns on the smaller streams tributary to the great river, had their own fleets. Sixteen vessels plied between Nashville and New Orleans. The Red River, and even the Missouri, began to echo to the puffing of the exhaust and the shriek of the steam-whistle. Indeed, it was not very long before the Missouri River became as important a pathway for the troops of emigrants making for the great western plains and in time for the gold fields of California, as the Ohio had been in the opening days of the century for the pioneers bent upon opening up the Mississippi Valley. The story of the Missouri River voyage, the landing place at Westport, now transformed into the great bustling city of Kansas City, and all the attendant incidents which led up to the contest in Kansas and Nebraska, forms one of the most interesting, and not the least important chapters in the history of our national development.

The decade during which the steamboats and the flatboats still struggled for the mastery, was the most picturesque period of Mississippi River life. Then the river towns throve most, and waxed turbulent, noisy, and big, according to the standards of the times. Places which now are mere names on the map, or have even disappeared from the map altogether, were great trans-shipping points for goods on the way to the sea. New Madrid, for example, which nowadays we remember chiefly as being one of the stubborn obstacles in the way of the Union opening of the river in the dark days of the Civil War, was in 1826

like a seaport. Flatboats in groups and fleets came drifting to its levees heavy laden with the products of the west and south, the output of the northern farms and mills, and the southern plantations. On the crowded river bank would be disembarked goods drawn from far-off New England, which had been dragged over the mountains and sent down the Ohio to the Mississippi; furs from northern Minnesota or Wisconsin; lumber in the rough, or shaped into planks, from the mills along the Ohio; whisky from Kentucky, pork and flour from Illinois, cattle, horses, hemp, fabrics, tobacco, everything that men at home or abroad, could need or crave, was gathered up by enterprising traders along three thousand miles of waterway, and brought hither by clumsy rafts and flatboats, and scarcely less clumsy steamboats, for distribution up and down other rivers, and shipment to foreign lands.

At New Orleans there was a like deposit of all the products of that rich valley, an empire in itself. There grain, cotton, lumber, live stock, furs, the output of the farms and the spoils of the chase, were transferred to ocean-going ships and sent to foreign markets. Speculative spirits planned for the day, when this rehandling of cargoes at the Crescent City would be no longer necessary, but ships would clear from Louisville or St. Louis to Liverpool or Hamburg direct. A fine type of the American sailor, Commodore Whipple, who had won his title by good sea-fighting in the Revolutionary War, gave great encouragement to this hope, in 1800, by taking the full-rigged ship "St. Clair," with a cargo of pork and flour, from Marietta, Ohio, down the Ohio, over the falls at Louisville, thence down the Mississippi, and round by sea to Havana, and so on to Philadelphia. This really notable exploit—to the success of which good luck con-

tributed almost as much as good seamanship—aroused the greatest enthusiasm. The Commodore returned home overland, from Philadelphia. His progress, slow enough, at best, was checked by ovations, complimentary addresses, and extemporized banquets. He was *the* man of the moment. The poetasters, who were quite as numerous in the early days of the republic, as the true poets were scarce, signalized his exploit in verse.

"The Triton crieth,
'Who cometh now from shore?'
Neptune replieth,
'Tis the old Commodore.
Long has it been since I saw him before.
In the year '75 from Columbia he came,
The pride of the Briton, on ocean to tame.

. . . . . .

But now he comes from western woods,
Descending slow, with gentle floods,
The pioneer of a mighty train,
Which commerce brings to my domain.'"

But Neptune and the Triton had no further occasion to exchange notes of astonishment upon the appearance of river-built ships on the ocean. The "St. Clair" was the first and last experiment of the sort. Late in the nineties, the United States Government tried building a torpedo-boat at Dubuque for ocean service, but the result was not encouraging.

Year after year the steamboats multiplied, not only on the rivers of the West, but on those leading from the Atlantic seaboard into the interior. It may be said justly that the application of steam to purposes of navigation made the American people face fairly about. Long they had stood, looking outward, gazing across the sea to Europe, their sole market, both for buying and for selling.

But now the rich lands beyond the mountains, inviting settlers, and cut up by streams which offered paths for the most rapid and comfortable method of transportation then known, commanded their attention. Immigrants no longer stopped in stony New England, or in Virginia, already dominated by an aristocratic land-owning class, but pressed on to Kentucky, Ohio, Tennessee, and Illinois. As the lands filled up, the little steamers pushed their noses up new streams, seeking new markets. The Cumberland, and the Tennessee, the Missouri, the Arkansas, the Red, the Tombigbee, and the Chattahoochee were stirred by the churning wheels, and over their forests floated the mournful sough of the high-pressure exhaust.

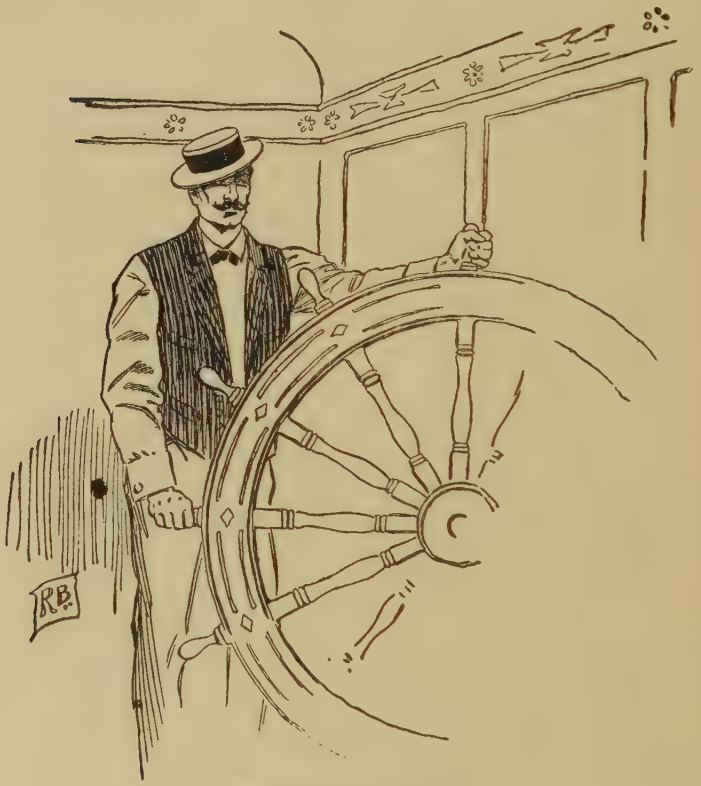
In 1840, a count kept at Cairo, showed 4566 vessels had passed that point during the year. By 1848, a "banner" year, in the history of navigation on the Mississippi, traffic was recorded thus:

25 vessels plying between Louisville, New Orleans and Cincinnati	8,484 tons
7 between Nashville and New Orleans	2,585 tons
4 between Florence and New Orleans	1,617 tons
4 in St. Louis local trade	1,001 tons
7 in local cotton trade	2,016 tons
River "tramps" and unclassified	23,206 tons

It may be noted that in all the years of the development of the Mississippi shipping, there was comparatively little increase in the size of the individual boats. The "Vesuvius," built in 1814, was 480 tons burthen, 160 feet long, 28.6 feet beam, and drew from five to six feet. The biggest boats of later years were but little larger.

The aristocrat of the Mississippi River steamboat was the pilot. To him all men deferred. So far as the river service furnished a parallel to the autocratic authority of the sea-going captain or master, he was it. All

matters pertaining to the navigation of the boat were in his domain, and right zealously he guarded his authority and his dignity. The captain might determine such trivial matters as hiring or discharging men, buying fuel, or



THE MISSISSIPPI PILOT

contracting for freight; the clerk might lord it over the passengers, and the mate domineer over the black roustabouts; but the pilot moved along in a sort of isolated

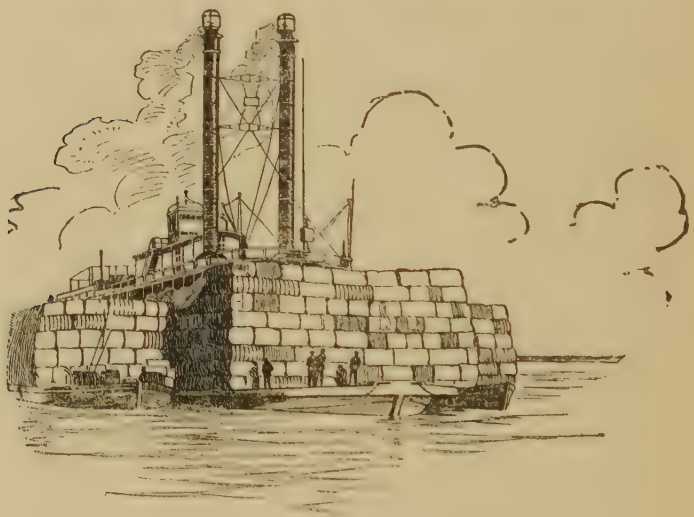
grandeur, the true monarch of all he surveyed. If, in his judgment the course of wisdom was to tie up to an old sycamore tree on the bank and remain motionless all night, the boat tied up. The grumblings of passengers and the disapproval of the captain availed naught, nor did the captain often venture upon either criticism or suggestion to the lordly pilot, who was prone to resent such invasion of his dignity in ways that made trouble. Indeed, during the flush times on the Mississippi, the pilots were a body of men possessing painfully acquired knowledge and skill, and so organized as to protect all the privileges which their attainments should win for them. The ability to "run" the great river from St. Louis to New Orleans was not lightly won, nor, for that matter, easily retained, for the Mississippi is ever a fickle flood, with changing landmarks and shifting channel. In all the great volume of literature bearing on the story of the river, the difficulties of its conquest are nowhere so truly recounted as in Mark Twain's *Life on the Mississippi,* the humorous quality of which does not obscure, but rather enhances its value as a picturesque and truthful story of the old-time pilot's life. The pilot began his work in boyhood as a "cub" to a licensed pilot. His duties ranged from bringing refreshments up to the pilot-house, to holding the wheel when some straight stretch or clear, deep channel offered his master a chance to leave his post for a few minutes. For strain on the memory, his education is comparable only to the Chinese system of liberal culture, which comprehends learning by rote some tens of thousands of verses from the works of Confucius and other philosophers of the far East. Beginning at New Orleans, he had to commit to memory the name and appearance of every point of land, inlet, river or bayou mouth, "cut-off," light, plantation and hamlet on either bank of the river all the

way to St. Louis. Then, he had to learn them all in their opposite order, quite an independent task, as all of us who learned the multiplication table backward in the days of our youth, will readily understand. These landmarks it was needful for him to recognize by day and by night, through fog or driving rain, when the river was swollen by spring floods, or shrunk in summer to a yellow ribbon meandering through a Sahara of sand. He had need to recognize at a glance the ripple on the water that told of a lurking sand-bar, and distinguish it from the almost identical ripple that a brisk breeze would raise. Most perplexing of the perils that beset river navigation are the "snags," or sunken logs that often obstruct the channel. Some towering oak or pine, growing in lusty strength for its half-century or more by the brink of the upper reaches of one of the Mississippi system would, in time, be undermined by the flood and fall into the rushing tide. For weeks it would be rolled along the shallows; its leaves and twigs rotting off, its smaller branches breaking short, until at last, hundreds of miles, perhaps, below the scene of its fall, it would lodge fair in the channel. The gnarled and matted mass of boughs would ordinarily cling like an anchor to the sandy bottom, while the buoyant trunk, as though struggling to break away, would strain upward obliquely to within a few inches of the surface of the muddy water, which—too thick to drink and too thin to plough, as the old saying went—gave no hint of this concealed peril; but the boat running fairly upon it, would have her bows stove in and go quickly to the bottom. After the United States took control of the river and began spending its millions annually in improving it for navigation and protecting the surrounding country against its overflows, "snag-boats" were put on the river, equipped with special machinery for dragging

these fallen forest giants from the channel, so that of late years accidents from this cause have been rare. But for many years the riverman's chief reliance was that curious instinct or second sight which enabled the trained pilot to pick his way along the most tortuous channel in the densest fog, or to find the landing of some obscure plantation on a night blacker than the blackest of the roustabouts, who moved lively to the incessant cursing of the mate.

The Mississippi River steamboat of the golden age on the river—the type, indeed, which still persists—was a triumph of adaptability to the service for which she was designed. More than this—she was an egregious architectural sham. She was a success in her light draught, six to eight feet, at most, and in her prodigious carrying capacity. It was said of one of these boats, when skilfully loaded by a gang of practical roustabouts, under the direction of an experienced mate, that the freight she carried, if unloaded on the bank, would make a pile bigger than the boat herself. The hull of the vessel was invariably of wood, broad of beam, light of draught, built "to run on a heavy dew," and with only the rudiments of a keel. Some freight was stowed in the hold, but the engines were not placed there, but on the main deck, built almost flush with the water, and extending unbroken from stem to stern. Often the engines were in pairs, so that the great paddle-wheels could be worked independently of each other. The finest and fastest boats were side-wheelers, but a large wheel at the stern, or two stern wheels, side by side, capable of independent action, were common modes of propulsion. The escape-pipes of the engine were carried high aloft, above the topmost of the tiers of decks, and from each one alternately, when the boat was under way, would burst a gush of steam, with

a sound like a dull puff, followed by a prolonged sigh, which could be heard far away beyond the dense forests that bordered the river. A row of posts, always in appearance, too slender for the load they bore, supported the saloon deck some fifteen feet above the main deck. When business was good on the river, the space within was packed tight with freight, leaving barely room enough for passenger gangways, and for the men feeding the



A DECK LOAD OF COTTON

roaring furnaces with pine slabs. A great steamer coming down to New Orleans from the cotton country about the Red River, loaded to the water's edge with cotton bales, so that, from the shore, she looked herself like a monster cotton bale, surmounted by tiers of snowy cabins and pouring forth steam and smoke from towering pipes, was a sight long to be remembered. It is a sight, too,

that is still common on the lower river, where the business of gathering up the planter's crop and getting it to market has not yet passed wholly into the hands of the railroads.

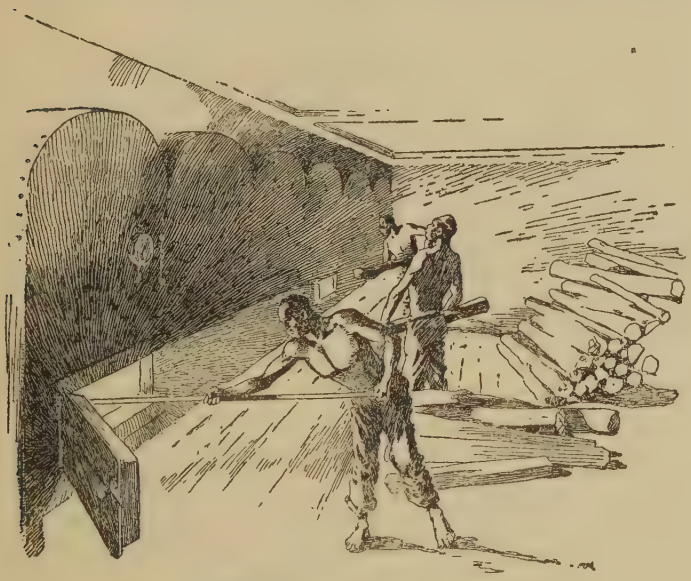
Above the cargo and the roaring furnaces rose the cabins, two or three tiers, one atop the other, the topmost one extending only about one-third of the length of the boat, and called the "Texas." The main saloon extending the whole length of the boat, save for a bit of open deck at bow and stern, was in comparison with the average house of the time, palatial. On either side it was lined by rows of doors, each opening into a two-berthed stateroom. The decoration was usually ivory white, and on the main panel of each door was an oil painting of some romantic landscape. There Chillon brooded over the placid azure of the lake, there storms broke with jagged lightning in the Andes, there buxom girls trod out the purple grapes of some Italian vineyard. The builders of each new steamer strove to eclipse all earlier ones in the brilliancy of these works of art, and discussion of the relative merits of the paintings on the "Natchez" and those on the "Baton Rouge" came to be the chief theme of art criticism along the river. Bright crimson carpet usually covered the floor of the long, tunnel-like cabin. Down the center were ranged the tables, about which, thrice a day, the hungry passengers gathered to be fed, while from the ceiling depended chandeliers, from which hung prismatic pendants, tinkling pleasantly as the boat vibrated with the throb of her engines. At one end of the main saloon was the ladies' cabin, discreetly cut off by crimson curtains; at the other, the bar, which, in a period when copious libations of alcoholic drinks were at least as customary for men as the cigar to-day, was usually a rallying point for the male passengers.

Far up above the yellow river, perched on top of the "Texas," or topmost tier of cabins, was the pilot-house, that honorable eminence of glass and painted wood which it was the ambition of every boy along the river some day to occupy. This was a great square box, walled in mainly with glass. Square across the front of it rose the huge wheel, eight feet in diameter, sometimes half-sunken beneath the floor, so that the pilot, in moments of stress, might not only grip it with his hands, but stand on its spokes, as well. Easy chairs and a long bench made up the furniture of this sacred apartment. In front of it rose the two towering iron chimneys, joined, near the top by an iron grating that usually carried some gaudily colored or gilded device indicative of the line to which the boat belonged. Amidships, and aft of the pilot-house, rose the two escape pipes, from which the hoarse, prolonged s-o-o-ugh of the high pressure exhaust burst at half-minute intervals, carrying to listeners miles away, the news that a boat was coming.

All this edifice above the hull of the boat, was of the flimsiest construction, built of pine scantling, liberally decorated with scroll-saw work, and lavishly covered with paint mixed with linseed oil. Beneath it were two, four, or six roaring furnaces fed with rich pitch-pine, and open on every side to drafts and gusts. From the top of the great chimneys poured volcanic showers of sparks, deluging the inflammable pile with a fiery rain. The marvel is not that every year saw its quotum of steamers burned to the water's edge, but, rather, that the quota were proportionately so small.

At midnight this apparent inflammability was even more striking. Lights shone from the windows of the long row of cabins, and wherever there was a chink, or a bit of glass, or a latticed blind, the radiance streamed

forth as though within were a great mass of fire, struggling, in every way, to escape. Below, the boiler deck was dully illumined by smoky lanterns; but when one of the great doors of the roaring furnace was thrown open, that the half-naked black firemen might throw in more pitch-pine slabs, there shone forth such a fiery glare, that the boat and the machinery—working in the open, and plain



FEEDING THE FURNACE

to view—seemed wrapped in a vesuvius of flame, and the sturdy stokers and lounging roustabouts looked like the fiends in a fiery inferno. The danger was not merely apparent, but very real. During the early days of steamboating, fires and boiler explosions were of frequent occurrence. A river boat, once ablaze, could never be saved, and the one hope for the passengers was that it

might be beached before the flames drove them overboard. The endeavor to do this brought out some examples of magnificent heroism among captains, pilots, and engineers, who, time and again, stood manfully at their posts, though scorched by flames, and cut off from any hope of escape, until the boat's prow was thrust well into the bank, and the passengers were all saved. The pilots, in the presence of such disaster, were in the sorest straits, and were, moreover, the ones of the boat's company upon whom most depended the fate of those on board. Perched at the very top of a large tinder-box, all avenues of escape except a direct plunge overboard were quickly closed to them. If they left the wheel the current would inevitably swing the boat's head downstream, and she would drift, aimlessly, a flaming funeral pyre for all on board. Many a pilot stood, with clenched teeth, and eyes firm set upon the distant shore, while the fire roared below and behind him, and the terrified passengers edged further and further forward as the flames pressed their way toward the bow, until at last came the grinding sound under the hull, and the sudden shock that told of shoal water and safety. Then, those on the lower deck might drop over the side, or swarm along the windward gangplank to safety, but the pilot too often was hemmed in by the flames, and perished with his vessel.

In the year 1840 alone there were 109 steamboat disasters chronicled, with a loss of fifty-nine vessels and 205 lives. The high-pressure boilers used on the river, cheaply built, and for many years not subjected to any official inspection, contributed more than their share to the list of accidents. Boiler explosions were so common as to be reckoned upon every time a voyage was begun. Passengers were advised to secure staterooms aft when

possible, as the forward part of the boat was the more apt to be shattered if the boiler "went up." Every river town had its citizens who had survived an explosion, and the stock form into which to put the humorous quip or story of the time was to have it told by the clerk going up as he met the captain in the air coming down, with the débris of the boat flying all about them. As the river boats improved in character, disasters of this sort became less frequent, and the United States, by establishing a rigid system of boiler inspection, and compelling engineers to undergo a searching examination into their fitness before receiving a license, has done much to guard against them. Yet to-day, we hear all too frequently of river steamers blown to bits, and all on board lost, though it is a form of disaster almost unknown on Eastern waters where crowded steamboats ply the Sound, the Hudson, the Connecticut, and the Potomac, year after year, with never a disaster. The cheaper material of Western boats has something to do with this difference, but a certain happy-go-lucky, devil-may-care spirit, which has characterized the Western riverman since the days of the broadhorns, is chiefly responsible. Most often an explosion is the result of gross carelessness—a sleepy engineer, and a safety-valve "out of kilter," as too many of them often are, have killed their hundreds on the Western rivers. Sometimes, however, the almost criminal rashness, of which captains were guilty, in a mad rush for a little cheap glory, ended in a deafening crash, the annihilation of a good boat, and the death of scores of her people by drowning, or the awful torture of inhaling scalding steam. Rivalry between the different boats was fierce, and now and then at the sight of a competitor making for a landing where freight and passengers awaited the first boat to land her gangplank, the alert captain would not un-

naturally take some risks to get there first. Those were the moments that resulted in methods in the engine room picturesquely described as "feeding the fires with fat bacon and resin, and having a nigger sit on the safety valve." To such impromptu races might be charged the most terrifying accidents in the history of the river.

But the great races, extending sometimes for more than a thousand miles up the river, and carefully planned for months in advance, were seldom, if ever, marred by an accident. For then every man on both boats was on the alert, from pilot down to fuel passer. The boat was trimmed by guidance of a spirit level until she rode the water at precisely the draft that assured the best speed. Her hull was scraped and oiled, her machinery overhauled, and her fuel carefully selected. Picked men made up her crew, and all the upper works that could be disposed of were landed before the race, in order to decrease air resistance. It was the current pleasantry to describe the captain as shaving off his whiskers lest they catch the breeze, and parting his hair in the middle, that the boat might be the better trimmed. Few passengers were taken, for they could not be relied upon to "trim ship," but would be sure to crowd to one side or the other at a critical moment. Only through freight was shipped—and little of that—for there would be no stops made from starting-point to goal. Of course, neither boat could carry all the fuel—pine-wood slabs—needed for a long voyage, but by careful prearrangement, great "flats" loaded with wood, awaited them at specified points in midstream. The steamers slowed to half-speed, the flats were made fast alongside by cables, and nimble negroes transferred the wood, while the race went on. At every riverside town the wharves and roofs would be black with people, awaiting the two rivals, whose appearance could

be foretold almost as exactly as that of a railway train running on schedule time. The firing of rifles and cannon, the blowing of horns, the waving of flags, greeted the racers from the shores by day, and great bonfires saluted them by night. At some of the larger towns they would touch for a moment to throw off mail, or to let a passenger leap ashore. Then every nerve of captain, pilot, and crew was on edge with the effort to tie up and get away first. Up in the pilot-house the great man of the wheel took shrewd advantage of every eddy and back current; out on the guards the humblest roustabout stood ready for a life-risking leap to get the hawser to the dock at the earliest instant. All the operations of the boat had been reduced to an exact science, so that when the crack packets were pitted against each other in a long race, their maneuvers would be as exactly matched in point of time consumed as those of two yachts sailing for the "America's" cup. Side by side, they would steam for hundreds of miles, jockeying all the way for the most favorable course. It was a fact that often such boats were so evenly matched that victory would hang almost entirely on the skill of the pilot, and where of two pilots on one boat one was markedly inferior, his watch at the wheel could be detected by the way the rival boat forged ahead. During the golden days on the river, there were many of these races, but the most famous of them all was that between the "Robert E. Lee" and the "Natchez," in 1870. These boats, the pride of all who lived along the river at that time, raced from New Orleans to St. Louis. At Natchez, 268 miles, they were six minutes apart; at Cairo, 1024 miles, the "Lee" was three hours and thirty-four minutes ahead. She came in winner by six hours and thirty-six minutes, but the officers of the "Natchez" claimed that this was not a fair test of the relative speed of the boats,

as they had been delayed by fog and for repairs to machinery for about seven hours.

Spectacular and picturesque was the riverside life of the great Mississippi towns in the steamboat days. Mark Twain has described the scenes along the levee at New Orleans at "steamboat time" in a bit of word-painting, which brings all the rush and bustle, the confusion, turmoil and din, clearly to the eye:

"It was always the custom for boats to leave New Orleans between four and five o'clock in the afternoon. From three o'clock onward, they would be burning resin and pitch-pine (the sign of preparation) and so one had the spectacle of a rank, some two or three miles long, of tall, ascending columns of coal-black smoke, a colonnade which supported a roof of the same smoke, blending together and spreading abroad over the city. Every outward-bound boat had its flag flying at the jack-staff, and sometimes a duplicate on the verge-staff astern. Two or three miles of mates were commanding and swearing with more than usual emphasis. Countless processions of freight, barrels, and boxes, were spinning athwart the levee, and flying aboard the stage-planks. Belated passengers were dodging and skipping among these frantic things, hoping to reach the forecastle companion-way alive, but having their doubts about it. Women with reticules and bandboxes were trying to keep up with husbands freighted with carpet sacks and crying babies, and making a failure of it by losing their heads in the whirl and roar and general distraction. Drays and baggage-vans were clattering hither and thither in a wild hurry, every now and then getting blocked and jammed together, and then, during ten seconds, one could not see them for the profanity, except vaguely and dimly. Every windlass connected with every forehatch from one end

of that long array of steamboats to the other, was keeping up a deafening whiz and whir, lowering freight into the hold, and the half-naked crews of perspiring negroes that worked them were roaring such songs as 'De las' sack! De las' sack!!' inspired to unimaginable exaltation by the chaos of turmoil and racket that was driving everybody else mad. By this time the hurricane and boiler decks of the packets would be packed and black with passengers, the last bells would begin to clang all down the line, and then the pow-wows seemed to double. In a moment or two the final warning came, a simultaneous din of Chinese gongs with the cry, 'All dat aint going, please to get ashore,' and, behold, the pow-wow quadrupled. People came swarming ashore, overturning excited stragglers that were trying to swarm aboard. One moment later, a long array of stage-planks was being hauled in, each with its customary latest passenger clinging to the end of it, with teeth, nails, and everything else, and the customary latest procrastinator making a wild spring ashore over his head.

"Now a number of the boats slide backward into the stream, leaving wide gaps in the serried rank of steamers. Citizens crowd on the decks of boats that were not to go, in order to see the sight. Steamer after steamer straightens herself up, gathers all her strength, and presently comes swinging by, under a tremendous head of steam, with flags flying, smoke rolling, and her entire crew of firemen and deck hands (usually swarthy negroes) massed together on the forecastle, the best voice in the lot towering in their midst (being mounted on the capstan) waving his hat or a flag, all roaring in a mighty chorus, while the parting cannons boom, and the multitudinous spectators swing their hats and huzza. Steamer

after steamer pulls into the line, and the stately procession goes winging its flight up the river."

Until 1865 the steamboats controlled the transportation business of all the territory drained by the Mississippi and its tributaries. But two causes for their undoing had already begun to work. The long and fiercely-fought war had put a serious check to the navigation of the rivers. For long months the Mississippi was barricaded by the Confederate works at Island Number 10, at New Madrid and at Vicksburg. Even after Grant and Farragut had burst these shackles navigation was attended with danger from guerrillas on the banks and trade was dead. When peace brought the promise of better things, the railroads were there to take advantage of it. From every side they were pushing their way into New Orleans, building roadways across the "trembling prairies," and crossing the water-logged country about the Rigolets on long trestles. They penetrated the cotton country and the mineral country. They paralleled the Ohio, the Tennessee, and the Cumberland, as well as the Father of Waters, and the steamboat lines began to feel the heavy hand of competition. Captains and clerks found it prudent to abate something of their dignity. Instead of shippers pleading for deck-room on the boats, the boats' agents had to do the pleading. Instead of levees crowded with freight awaiting carriage there were broad, empty spaces by the river's bank, while the railroad freight-houses up town held the bales of cotton, the bundles of staves, the hogsheads of sugar, the shingles and lumber. On long hauls the railroads quickly secured all the North and South business, though indeed, the hauling of freight down the river for shipment to Europe was ended for both railroads and steamboats, so far as the products raised north of the Tennessee line was concerned. For

a new water route to the sea had been opened and wondrously developed. The Great Lakes were the shortest waterway to the Atlantic, and New York dug its Erie Canal which afforded an outlet—pinched and straitened, it is true, but still an outlet—for the cargoes of the lake schooners and the early steamers of the unsalted seas.

With the entrance of the Twentieth Century began a decline in river traffic so that it is to-day at its lowest ebb. Its decline is largely due to the unrelenting hostility of the railroads, which not only refuse traffic arrangements with river boats, but buy up and hold out of use the most advantageous locations for docks and wharves. In 1917 the volume of traffic on the Mississippi and tributary waters had sunk to 1,621,000 tons. There were not lacking efforts to revive it, though not in the form of its ancient grandeur. Passenger traffic was virtually abandoned. Freight, it was believed might be carried in barges towed by a powerful tug, and several of these barge lines were in contemplation at the time of the completion of this book. The great economic advantage to France of its canals and canalized waterways was demonstrated during the war, as never before. Indeed, it has been held by good authorities that except for her canals France could never have kept her armies at the front supplied with rations and the material of war. Stimulated by this record the United States is sending a commission abroad to study French methods of interior water transportation, and it is not improbable that as freight carriers our rivers may regain the importance they have now lost. But the glory of the "old times on the Mississippi," when it was the great highway of luxurious travel between the north and south has departed forever.

CHAPTER IX

THE NEW ENGLAND FISHERIES — THEIR PART IN EFFECTING THE SETTLEMENT OF AMERICA — THEIR RAPID DEVELOPMENT — WIDE EXTENT OF THE TRADE — EFFORT OF LORD NORTH TO DESTROY IT — THE FISHERMEN IN THE REVOLUTION — EFFORTS TO ENCOURAGE THE INDUSTRY — ITS PART IN POLITICS AND DIPLOMACY — THE FISHING BANKS — TYPES OF BOATS — GROWTH OF THE FISHING COMMUNITIES — FARMERS AND SAILORS BY TURNS — THE EDUCATION OF THE FISHERMEN — METHODS OF TAKING MACKEREL — THE SEINE AND THE TRAWL — SCANT PROFITS OF THE INDUSTRY — PERILS OF THE BANKS — SOME PERSONAL EXPERIENCES — THE FOG AND THE FAST LINERS — THE TRIBUTE OF HUMAN LIFE.

THE summer yachtsman whiling away an idle month in cruises up and down that New England coast which, once stern and rock-bound, has come to be the smiling home of midsummer pleasures, encounters at each little port into which he may run, moldering and decrepit wharves, crowned with weatherbeaten and leaky structures, waterside streets lined with shingled fish-houses in an advanced stage of decay, and acres of those low platforms known as flakes, on which at an earlier day the product of the New England fisheries was spread out to dry in the sun, but which now are rapidly disintegrating and mingling again with the soil from which the wood of their structures sprung. Every harbor on the New England coast, from New Bedford around to the Canadian line, bears these dumb memorials to the gradual decadence of what was once our foremost national industry. For the fisheries which once nursed for us a school of

the hardiest seamen, which aroused the jealousy of England and France, which built up our seaport towns, and carried our flag to the furthest corners of the globe, and which in the records both of diplomacy and war fill a prominent place have been for the last twenty years appreciably tending to disappear. Many causes are assigned for this. The growing scarcity of certain kinds of fish, the repeal of encouraging legislation, a change in the taste of certain peoples to whom we shipped large quantities of the finny game, the competition of Canadians and Frenchmen, the great development of the salmon fisheries and salmon canning on the Pacific coast, all have contributed to this decay. It is proper, however, to note that the decadence of the fisheries is to some extent more apparent than real. True, there are fewer towns supported by this industry, fewer boats and men engaged in it; but in part this is due to the fact that the steam fishing boat carrying a large fleet of dories accomplishes in one season with fewer hands eight or ten times the work that the old-fashioned pink or schooner did. And, moreover, as the population of the seaport towns has grown, the apparent prominence of the fishing industry has decreased, as that industry has not grown in proportion to the population. Forty years ago Marblehead and Nantucket were simply fishing villages, and nothing else. Today the remnants of the fishing industry attract but little attention, in the face of the vastly more profitable and important calling of entertaining the summer visitor. New Bedford has become a great factory town, Lynn and Hull are great centers for the shoemaking industries.

When the Pilgrim Fathers first concluded to make their journey to the New England coast and sought of the English king a charter, they were asked by the thrifty James, what profit might arise. "Fishing," was the

answer. Whereupon, according to the narrative of Edward Winslow, the king replied, "So, God have my soul; 'tis an honest trade; 'twas the apostles' own calling." The redoubtable Captain John Smith, making his way to the New England coast from Virginia, happened to drop a fishline over what is known now as George's Bank. The miraculous draught of fishes which followed did not awaken in his mind the same pious reflections to which King James gave expression. Rather was he moved to exultation over the profit which he saw there. "Truly," he said, in a letter to his correspondent in London, "It is a pleasant thing to drop a line and pull up threepence, fivepence, and sixpence as fast as one may haul in." The gallant soldier of fortune was evidently quite awake to the possibilities of profit upon which he had stumbled. Yet, probably even he would have been amazed could he have known that within fifty years not all the land in the colony of Massachusetts Bay, nor in the Providence and Rhode Island plantations produced so much of value as the annual crop the fishermen harvested on the shallow banks off Cape Cod.

As early as 1633 fish began to be exported from Boston, and very shortly thereafter the industry had assumed so important a position that the general court adopted laws for its encouragement, exempting vessels, and stock from taxation, and granting to fishermen immunity from military duty. At the close of the seventeenth century, Massachusetts was exporting over $400,000 worth of fish annually. From that time until well into the middle of the last century the fisheries were so thoroughly the leading industry of Massachusetts that the gilded codfish which crowns the dome of the State House at Boston, only fitly typifies by its prominence above the city the part which its natural prototypes played in building up the common-

wealth. In the Revolution and the early wars of the United States, the fishermen suffered severely. Crowded together on the banks, they were easy prey for the British cruisers, who, in time of peace or in time of war, treated them about as they chose, impressing such sailors as seemed useful, and seizing such of their cargo as the whim of the captain of the cruiser might suggest. And even before the colonies had attained the status of a nation, the jealousy and hostility of Great Britain bore heavily on the fortunes of the New England fishermen. It was then, as it has been until the present day, the policy of Great Britain to build up in every possible way its navy, and to encourage by all imaginable devices the development of a large body of able seamen, by whom the naval vessels might be manned. Accordingly parliament undertook to discourage the American fisherman by hostile legislation, so that a body of deep-sea fishermen might be created claiming English ports for their home. At first the effort was made to prohibit the colonies from exporting fish. The great Roman Catholic countries of France, Spain, and Portugal took by far the greater share of the fish sent out, though the poorer qualities were shipped to the West Indies and there exchanged for sugar and molasses. Against this trade Lord North leveled some of his most offensive measures, proposing bills, indeed, so unjust and tyrannical that outcries were raised against them even in the British House of Lords. To cut off intercourse with the foreign peoples who took the fish of the Yankees by hundreds and thousands of quintals, and gave in return rum, molasses, and bills of exchange on England, to destroy the calling in which every little New England seacoast village was interested above all things, Lord North first proposed to prohibit the colonies trading in fish with any country save the "mother" country, and secondly, to

refuse to the people of New England the right to fish on the Great Banks of Newfoundland, thus confining them to the off-shore banks, which already began to show signs of being fished out. Even a hostile parliament was shocked by these measures. Every witness who appeared before the House of Commons testified that they would work irreparable injury to New England, would rob six thousand of her able-bodied men of their means of livelihood, and would drive ten thousand more into other vocations. But the power of the ministry forced the bills through, though twenty-one peers joined in a solemn protest. "We dissent," said they, "because the attempt to coerce, by famine, the whole body of the inhabitants of great and populous provinces, is without example in the history of this, or, perhaps, of any civilized nations." This was in 1775, and the revolution in America had already begun. It was the policy of Lord North to force the colonists to stop their opposition to unjust and offensive laws by imposing upon them other laws more unjust and more offensive still—a sort of homeopathic treatment, not infrequently applied by tyrants, but which seldom proves effective. In this case it aligned the New England fishermen to a man with the Revolutionists. A Tory fisherman would have fared as hard as

> "Old Floyd Ireson for his hard heart
> Tarr'd and feathered and carried in a cart,
> By the woman of Marblehead."

Nor was this any inconsiderable or puny element which Lord North had deliberately forced into revolt. Massachusetts alone had at the outbreak of the Revolution five hundred fishing vessels, and the town of Marblehead one hundred and fifty sea-going fishing schooners. Gloucester had nearly as many, and all along the coast,

from Maine to New York, there were thrifty settlers, farmers and fishermen, by turns, as the season served. New England was preeminently a maritime state. Its people had early discovered that a livelihood could more easily be plucked from the green surges of ocean, white-capped as they sometimes were, than wrested from the green and boulder-crowned hills. Upon the fisheries rested practically all the foreign commerce. They were the foundation upon which were built the superstructure of comfort and even luxury, the evidences of which are impressive even in the richer New England of to-day. Therefore, when the British ministry attacked this calling, it roused against the crown not merely the fisherman and the sailor, but the merchants as well—not only the denizens of the stuffy forecastles of pinks and schooners, but the owners of the fair great houses in Boston and New Bedford. Lord North's edicts stopped some thousands of sturdy sailors from catching cod and selling them to foreign peoples. They accordingly became privateers, and preyed upon British commerce until it became easier for a mackerel to slip through the meshes of a seine than for a British ship to make its usual voyages. The edicts touched the commercial Bostonians in their pockets, and stimulated them to give to the Revolution that countenance and support of the "business classes" which revolutionary movements are apt to lack, and lacking which, are apt to fail.

The war, of course, left the fisheries crippled and almost destroyed. It had been a struggle between the greatest naval power of the world, and a loose coalition of independent colonies, without a navy and without a centralized power to build and maintain one. Massachusetts did, indeed, equip an armed ship to protect her fishermen, but partly because the protection was inade-

quate, and partly as a result of the superior attractions of privateering, the fishing boats were gradually laid up, until scarcely enough remained in commission to supply the demands of the home merchant for fish. Where there had been prosperity and bustle about wharves, and fish-houses, there succeeded idleness and squalor. Ship-building was prostrate, commerce was dead. The sailors returned to the farms, shipped on the privateers, or went into Washington's army. But when peace was declared, they flocked to their boats, and began to rebuild their shattered industry. Marblehead, which went into the war with 12,000 tons of shipping, came out with 1500. Her able-bodied male citizens had decreased in numbers from 1200 to 500. Six hundred of her sons, used to hauling the seine and baiting the trawl, were in British prisons. How many from this and other fishing ports were pressed against their will into service on British men-of-war, history has no figures to show; but there were hundreds. Yet, prostrate as the industry was, it quickly revived, and soon again attained those noble proportions that had enabled Edmund Burke to say of it, in defending the colonies before the House of Commons:

"No ocean but what is vexed with their fisheries; no climate that is not witness of their toils. Neither the perseverance of Holland, nor the activity of France, nor the dextrous and firm sagacity of English enterprise ever carried this perilous mode of hardy enterprise to the extent to which it has been pushed by this recent people—a people who are still, as it were, in the gristle, and not yet hardened into the bone of manhood."

In 1789, immediately upon the formation of the Government under which we now live, the system of giving bounties to the deep-sea fishermen was inaugurated and was continued down to the middle of the last century,

when a treaty with England led to its discontinuance. The wisest statesmen and publicists differ sharply concerning the effect of bounties and special governmental favors, like tariffs and rebates, upon the favored industry, and so, as long as the fishing bounty was continued, its needfulness was sharply questioned by one school, while ever since its withdrawal the opposing school has ascribed to that act all the later ills of the industry. Indeed, as this chapter is being written, a subsidy measure before Congress for the encouragement of American shipping, contains a proviso for a direct payment from the national treasury to fishing vessels, proportioned to their size and the numbers of their crews. It is not my purpose to discuss the merits, either of the measure now pending, or of the many which have, from time to time, encouraged or depressed our fishermen. It would be hard, however, for any one to read the history of the fisheries without being impressed by the fact that the hardy and gallant men who have risked their lives in this most arduous of pursuits, have suffered from too much government, often being sorely injured by a measure intended solely for their good, as in the case of the Treaty of 1818. That instrument was negotiated for the purpose of maintaining the rights of American fishermen on the banks off Newfoundland, Labrador, and Nova Scotia. The American commissioners failed to insist upon the right of the fishermen to land for bait, and this omission, together with an ambiguity in defining the "three-mile limit," enabled the British government to harass, harry, and even confiscate American fishermen for years. American fleets were sent into the disputed waters, and two nations were brought to the point of war over the question which should control the taking of fish in waters that belonged to neither, and that held more than enough for all

peoples. To settle the dispute the United States finally entered into another treaty which secured the fishermen the rights ignored in the treaty of 1818, but threw American markets open to Canadian fishermen. This the men of Gloucester and Marblehead, nurtured in the school of protection, declared made their last state worse than the first. So the tinkering of statutes and treaties went on, even to the present day, the fisheries languishing meanwhile, not in our country alone, but in all engaged in the effort to get special privileges on the fishing grounds. Whenever man tries thus to monopolize, by sharp practise or exclusive laws, the bounty which God has provided in abundance for all, the end is confusion, distress, disaster, and too often war.

But the story of what the politicians, and those postgraduates of politics, the statesmen, have done for and against the fishermen of New England, is not that which I have to tell. Rather, it is my purpose to tell something of the lives of the fishermen, the style of their vessels, the portions of the rolling Atlantic which they visit in search of their prey, their dire perils, their rough pleasures, and their puny profits. First, then, as to their prey, and its haunts.

The New England fishermen, in the main, seek three sorts of fish—the mackerel, the cod, and the halibut. These they find on the shallow banks which border the coast from the southern end of Delaware to the very entrance of Baffin's Bay. The mackerel is a summer fish, coming and going with the regularity of the equinoxes themselves. Early in March, they appear off the coast, and all summer work their way northward, until, in early November, they disappear off the coast of Labrador, as suddenly as though some titanic seine had swept the ocean clear of them. What becomes of the mackerel in winter,

neither the inquisitive fisherman nor the investigating scientist has ever been able to determine. They do not, like migratory birds, reappear in more temperate southern climes, but vanish utterly from sight. Eight months, therefore, is the term of the mackerel fishing, and the men engaged in it escape the bitterest rigors of the winter fisheries on the Newfoundland Banks, where the cod is taken from January to January. Yet it has dangers of its own—dangers of a sort that, to the sailor, are more menacing than the icebergs or even the swift-rushing ocean liners of the Great Banks. For mackerel fishing is pursued close in shore, in shallow water, where the sand lies a scant two fathoms below the surface, and a north-east wind will, in a few minutes, raise a roaring sea that will pound the stoutest vessel to bits against the bottom. With plenty of sea-room, and water enough under the keel, the sailor cares little for wind or waves; but in the shallows, with the beach only a few miles to the leeward, and the breakers showing white through the darkness, like the fangs of a beast of prey, the captain of a fishing schooner on George's banks has need of every resource of the sailor, if he is to beat his way off, and not feed the fishes that he came to take. Nowhere is the barometer watched more carefully than on the boats cruising about on George's. When its warning column falls, the whole fleet makes for the open sea, however good the fishing may be. But, with all possible caution, the losses are so many that George's, early in its history, came to have the ghoulish nickname of "Dead Men's Bank."

North of George's Bank—which lies directly east of Cape Cod—are found, in order, Brown's Bank, La Have, Western Bank—in the center of which lies Sable Island, famed as an ocean graveyard, whose shifting sands are as thickly strewn with the bleaching ribs of stout ships as an

old green churchyard is set with mossy marbles—St. Peter's Bank, and the Grand Bank of Newfoundland. All of these lie further out to sea than George's, and are tenanted only by cod and halibut, though in the waters near the shore the fishermen pursue the mackerel, the herring—which, in cottonseed oil masquerades as American sardines—and the menhaden, used chiefly for fertilizer. The boats used in the fisheries are virtually of the same model, whatever the fish they may seek—except in the case of the menhaden fishery, which more and more is being prosecuted in slow-going steamers, with machines for hauling seines, and trawl nets. But the typical fishing boat engaged in the food fisheries is a trim, swift schooner, built almost on the lines of a yacht, and modeled after a type designed by Edward Burgess, one of New England's most famous yacht designers. Seaworthy and speedy both are these fishing boats of to-day, fit almost to sail for the "America's" cup, modeled, as they are, from a craft built by the designer of a successful cup defender. That the fishermen ply their calling in vessels so perfectly fitted to their needs is due to a notable exhibition of common sense and enterprise on the part of the United States Fish Commission. Some years ago almost anything that would float was thought good enough for the bank fishermen. In the earliest days of the industry, small sloops were used. These gave way to the "Chebacco boat," a boat taking its name from the town of Chebacco, Massachussetts, where its rig was first tested. This was a fifteen to twenty ton boat almost as sharp at the stern as in the bow, carrying two masts, both cat-rigged. A perfect marvel of crankiness a boat so rigged would seem; but the New England seamen became so expert in handling them that they took them to all of the fishing banks, and even made cruises to the West Indies with

cargoes of fish, bringing back molasses and rum. A development of the Chebacco boat was the pink, differing only in its rig, which was of the schooner model. But in time the regular schooner crowded out all other types of fishing vessels. In 1882, the members of the Fish Commission, studying the frightful record of wrecks and

ON THE BANKS

drownings among the Gloucester and Marblehead fishermen, reached the conclusion that an improved model fishing boat might be the means of saving scores of lives. The old model was seen to be too heavily rigged, with too square a counter, and insufficient draught. Accordingly, a model boat, the "Grampus," was designed, the style of

which has been pretty generally followed in the fishing fleet.

Such a typical craft is a schooner of about eighty tons, clean-cut about the bows, and with a long overhang at the stern that would give her a rakish, yacht-like air, except for the evidences of her trade, with which her deck is piled. Her hull is of the cutter model, sharp and deep, affording ample storage room. She has a cabin aft, and a roomy forecastle, though such are the democratic conditions of the fishing trade that part of the crew bunks aft with the skipper. The galley, a little box of a place, is directly abaft the foremast, and back of it to the cabin, are the fishbins for storing fish, after they are cleaned and salted or iced. Nowadays, when the great cities, within a few hours' sail of the banks, offer a quick market for fresh fish, many of the fishing boats bring in their catch alive—a deep well, always filled with sea-water, taking the place of the fishbins. The deck, forward of the trunk cabin, is flush, and provided with "knockdown" partitions, so that hundreds of flapping fish may be confined to any desired portion. Amidships of the bankers rises a pile of five or six dories, the presence of which tells the story of the schooner's purpose, for fishing on the Grand Banks for cod is mainly done with trawls which must be tended from dories—a method which has resulted in countless cruel tragedies.

The lives of the men who go down to the sea in ships are always full of romance, the literary value of which has been fully exploited by such writers of sea stories as Cooper and Clark Russell. But the romance of the typical sailor's life is that which grows out of a ceaseless struggle with the winds and waves, out of world-wide wanderings, and encounters with savages and pirates. It is the romance which makes up melodrama, rather than

that of the normal life. The early New England fishermen, however, were something more than vagrants on the surface of the seas. In their lives were often combined the peacful vocations of the farmer or woodsman, with the adventurous calling of the sailor. For months out of the year, the Maine fisherman would be working in the forests, felling great trees, guiding the tugging ox-teams to the frozen rivers, which with spring would float the timber down to tidewater. When winter's grip was loosened, he, like the sturdy logs his axe had shaped, would find his way to where the air was full of salt, and the owners of pinks and schooners were painting their craft, running over the rigging, and bargaining with the outfitters for stores for the spring cruise. From Massachusetts and Rhode Island farms men would flock to the little ports, leaving behind the wife and younger boys to take care of the homestead, until the husband and father returned from the banks in the fall, with his summer's earnings. His luck at fishing, her luck with corn and calves and pigs, determined the scale of the winter's living. Some of the fishermen were not only farmers, as well, but ship-builders and ship-owners, too. If the farm happened to front on some little cove, the frame of a schooner would be set up there on the beach, and all winter long the fisherman-farmer-builder would work away with adze and saw and hammer, putting together the stout hull that would defend him in time against the shock of the north-east sea. His own forest land supplied the oak trees, keelson, ribs, and stem. The neighboring sawmill shaped his planks. One lucky cruise as a hand on a fishing boat owned by a friend would earn him enough to pay for the paint and cordage. With Yankee ingenuity he shaped the iron work at his own forge—evading in its time the stupid British law that forbade the colonists

to make nails or bolts. Two winters' labor would often give the thrifty builder a staunch boat of his own, to be christened the "Polly Ann," or the "Mary Jane"—more loyal to family ties than to poetic euphony were the Yankee fishermen—with which he would drive into the teeth of the north-east gale, breaking through the waves as calmly as in early spring at home he forced his plough through the stubble.

There was, too, in those early days of the fisheries, a certain patriarchal relation maintained between owner and crew that finds no parallel in modern times. The first step upward of the fisherman was to the quarter-deck. As captain, he had a larger responsibility, and received a somewhat larger share of the catch, than any of his crew. Then, if thrifty, or if possessed of a shipyard at home, such as I have described, he soon became an owner. In time, perhaps, he would add one or two schooners to his fleet, and then stay ashore as owner and outfitter, sending out his boats on shares. Fishermen who had attained to this dignity, built those fine, old, great houses, which we see on the water-front in some parts of New England—square, simple, shingled to the ground, a deck perched on the ridge-pole of the hipped roof, the frame built of oak shaped like a ship's timbers, with axe and adze. The lawns before the houses sloped down to the water where, in the days of the old prosperity, the owner's schooner might be seen, resting lightly at anchor, or tied up to one of the long, frail wharves, discharging cargo—wharves black and rotting now, and long unused to the sailor's cherry cry. There, too, would be the flakes for drying fish, the houses on the wharves for storing supplies, and the packed product, and the little store in which the outfitter kept the simple stock of necessaries from which all who shipped on his fleet were welcome to draw

for themselves and their families, until their "ship came in." To such a fishing port would flock the men from farm and forest, as the season for mackerel drew nigh. The first order at the store would include a pair of buck (red leather) or rubber boots, ten or fifteen pounds of tobacco, clay pipe, sou'-westers, a jack-knife, and oil-clothes. If the sailor was single, the account would stop there, until his schooner came back to port. If he had a family, a long list of groceries, pork and beans, molasses, coffee, flour, and coarse cloth, would be bought on credit, for the folks at home. It came about naturally that these folks preferred to be near the store at which the family had credit, and so the sailors would, in time, buy little plots of land in the neighborhood, and build thereon their snug shingled cottages. So sprung up the fishing villages of New England.

The boys who grew up in these villages were able to swim as soon as they could walk; rowed and sailed boats before they could guide a plow; could give the location of every bank, the sort of fish that frequented it, and the season for taking them. They could name every rope and clew, every brace and stay on a pink or Chebacco boat before they reached words of two syllables in Webster's blue-backed spelling-book; the mysteries of trawls and handlines, of baits and hooks were unraveled to them while still in the nursery, and the songs that lulled them to sleep were often doleful ditties of castaways on George's Bank. Often they were shipped as early as their tenth year, going as a rule in schooners owned or commanded by relatives. It was no easy life that the youngster entered upon when first he attained the dignity of being a "cut-tail," but such as it was, it was the life he had looked forward to ever since he was old enough to consider the future. He lived in a little forecastle, heated

by a stuffy stove, which it was his business to keep supplied with fuel. The bunks on either side held rough men, not over nice of language or of act, smoking and playing cards through most of their hours of leisure. From time immemorial it has been a maxim of the forecastle that the way to educate a boy is to "harden" him, and the hardening process has usually taken the form of persistent brutality of usage—the rope's end, the heavy hand, the hard-flung boot followed swift upon transgression of the laws or customs of ship or forecastle. The "cut-tail" was everybody's drudge, yet gloried in it, and a boy of Gloucester or Marblehead, who had lived his twelve years without at least one voyage to his credit, was in as sorry a state among his fellow urchins as a "Little Lord Fauntleroy" would be in the company of Tom Sawyer and Huckleberry Finn.

The intimacies of the village streets were continued on the ocean. Fish supplanted marbles as objects of prime importance in the urchin's mind. The smallest fishing village would have two or three boats out on the banks, and the larger town several hundred. Between the crews of these vessels existed always the keenest rivalry, which had abundant opportunity for its exhibition, since the conditions of the fishery were such that the schooners cruised for weeks, perhaps, in fleets of several hundred. Every maneuver was made under the eyes of the whole fleet, and each captain and sailor felt that among the critics were probably some of his near neighbors at home. Charles Nordhoff, who followed a youth spent at sea with a long life of honorable and brilliant activity in journalism, describes the watchfulness of the fleet as he had often seen it:

"The fleet is the aggregate of all the vessels engaged in the mackerel fishery. Experience has taught fisher-

men that the surest way to find mackerel is to cruise in one vast body, whose line of search will then extend over an area of many miles. When, as sometimes happens, a single vessel falls in with a large 'school,' the catch is, of course, much greater. But vessels cruising separately or in small squads are much less likely to fall in with fish than is the large fleet. 'The fleet' is therefore the aim of every mackerel fisherman. The best vessels generally maintain a position to the windward. Mackerel mostly work to windward slowly, and those vessels furthest to windward in the fleet are therefore most likely to fall in with fish first, while from their position they can quickly run down should mackerel be raised to leeward.

"Thus, in a collection of from six hundred to a thousand vessels, cruising in one vast body, and spreading over many miles of water, is kept up a constant, though silent and imperceptible communication, by means of incessant watching with good spy-glasses. This is so thorough that a vessel at one end of the fleet cannot have mackerel 'alongside,' technically speaking, five minutes, before every vessel in a circle, the diameter of which may be ten miles, will be aware of the fact, and every man of the ten thousand composing their crews will be engaged in spreading to the wind every available stitch of canvas to force each little bark as quickly as possible into close proximity to the coveted prize."

To come upon the mackerel fleet suddenly, perhaps with the lifting of the fog's gray curtain, or just as the faint dawn above the tossing horizon line to the east began to drive away the dark, was a sight to stir the blood of a lad born to the sea. Sometimes nearly a thousand vessels would be huddled together in a space hardly more than a mile square. At night, their red and green lights would swing rhythmically up and down as the little craft were

tossed by the long rollers of old Atlantic, in whose black bosom the gay colors were reflected in subdued hues. From this floating city, with a population of perhaps ten thousand souls, no sound arises except the occasional roar of a breaking swell, the creaking of cordage, and the "chug-chug" of the vessel's bows as they drop into the trough of the sea. All sails are furled, the bare poles showing black against the starlit sky, and, with one man on watch on the deck, each drifts idly before the breeze. Below, in stuffy cabins and fetid forecastles, the men are sleeping the deep and dreamless sleep that hard work in the open air brings as one of its rewards. All is as quiet as though a mystic spell were laid on all the fleet. But when the sky to the eastward begins to turn gray, signs of life reappear. Here and there in the fleet a sail will be seen climbing jerkily to the masthead, and hoarse voices sound across the waters. It is only a minute or two after the first evidence of activity before the whole fleet is tensely active. Blocks and cordage are creaking, captains and mates shouting. Where there was a forest of bare poles are soon hundreds of jibs and mainsails, rosy in the first rays of the rising sun. The schooners that have been drifting idly, are, as by magic, under weigh, cutting across each other's bows, slipping out of menacing entanglements, avoiding collisions by a series of nautical miracles. From a thousand galleys rise a thousand slender wreaths of smoke, and the odors of coffee and of the bean dear to New England fishermen, mingle with the saline zephyrs of the sea. The fleet is awake.

They who have sailed with the fleet say that one of the marvels of the fisherman's mind is the unerring skill with which he will identify vessels in the distant fleet. To the landsman all are alike—a group of somewhat dingy schooners, not over trig, and apt to be in need of

paint. But the trained fisherman, pursing his eyes against the sun's glitter on the waves, points them out one by one, with names, port-of-hail, name of captain, and bits of gossip about the craft. As the mountaineer identifies the most distant peak, or the plainsman picks his way by the trail indistinguishable to the untrained eye, so the fisherman, raised from boyhood among the vessels that make up the fleet, finds in each characteristics so striking, so individual, as to identify the vessel displaying them as far as a keen eye can reach.

The fishing schooners, like the whalers, were man-

"THE BOYS MARKED THEIR FISH BY CUTTING OFF THEIR TAILS"

aged upon principles of profit-sharing. The methods of dividing the proceeds of the catch differed, but in no sense did the wage system exist, except for one man on board—the cook, who was paid from $40 to $60 a month, besides being allowed to fish in return for caring for the vessel when all the men were out in dories. Sometimes the gross catch of the boat was divided into two parts, the owners who outfitted the boat, supplying all provisions, equipment, and salt, taking one part, the other being divided among the fishermen in proportion to the catch of each. Every fish caught was carefully tallied, the cus-

tomary method being to cut the tongues, which at the close of the day's work were counted by the captain, and each man's catch credited. The boys, of whom each schooner carried one or two, marked their fish by cutting off the tails, wherefore these hardy urchins, who generally took the sea at the age of ten, were called "cut-tails." The captain, for his more responsible part in the management of the boat, was not always expected to keep tally of his fish, but was allowed an average catch, plus from three to five per cent. of the gross value of the cargo. Not infrequently the captain was owner of the boat, and his crew, thrifty neighbors of his, owning their own houses by the waterside, and able to outfit the craft and provide for the sustenance of their wives and children at home without calling upon the capitalist for aid. In such a case, the whole value of the catch was divided among the men who made it. At best, these shares were not of a sort to open the doors of a financial paradise to the men. The fisheries have always afforded impressive illustrations of the iron rule of the business world that the more arduous and more dangerous an occupation is, the less it pays. It was for the merest pittance that the fishermen risked their lives, and those who had families at home drawing their weekly provender from the outfitter were lucky if, at the end of the cruise they found themselves with the bill at the store paid, and a few dollars over for necessaries during the winter. In 1799, when the spokesmen of the fishery interests appeared before Congress to plead for aid, they brought papers from the town of Marblehead showing that the average earnings of the fishing vessels hailing from that port were, in 1787, $483; in 1788, $456; and in 1789, $273. The expenses of each vessel averaged $275. In the best of the three years, then, there was a scant $200 to be divided among the captain, the

crew, and the owner. This was, of course, one of the leanest of the lean years that the fishermen encountered; but with all the encouragement in the way of bounties and protected markets that Congress could give them, they never were able to earn in a life, as much as a successful promoter of trusts nowadays will make in half an hour. In 1917 the New England fishing fleet numbered 512 vessels. In the midst of war-time distractions it was sorely handicapped by lack of men, for while in ordinary years an average of about 135,000 men followed this calling, it was difficult at this period to find two-thirds of this number. The argument for the encouragement of the fisheries has long been that they furnished a school for navy seamen. But when the country came to draw upon this school it found that reducing the number of the fishermen quickly sent up the price of fish.

Mackerel are taken both with the hook and in nets—taken in such prodigious numbers that the dories which go out to draw the seine are loaded until their gunwales are almost flush with the sea, and each haul seems indeed a miraculous draught of fishes. It is the safest and pleasantest form of fishing known to the New Englander, for its season is in summer only; the most frequented banks are out of the foggy latitude, and the habit of the fish of going about in monster schools keeps the fishing fleet together, conducing thus to safety and sociability both. In one respect, too, it is the most picturesque form of fishing. The mackerel is not unlike his enemy, man, in his curiosity concerning the significance of a bright light in the dark. Shrewd shopkeepers, who are after gudgeons of the human sort, have worked on this failing of the human family so that by night some of our city streets blaze with every variety of electric fire. The mackerel fisherman

gets after his prey in much the same fashion. When at night the lookout catches sight of the phosphorescent gleams in the water that tells of the restless activity beneath of a great school of fish the schooner is headed straightway for the spot. Perhaps forty or fifty other schooners will be turning their prows the same way, their red and green lights glimmering through the black night on either side, the white waves under the bows showing faintly, and the creaking of the cordage sounding over the waters. It is a race for first chance at the school, and a race conducted with all the dash and desperation of a steeple-chase. The skipper of each craft is at his own helm, roaring out orders, and eagerly watchful of the lights of his encroaching neighbors. With the schooner heeled over to leeward, and rushing along through the blackness, the boats are launched, and the men tumble over the side into them, until perhaps the cook, the boy, and the skipper are alone on deck. One big boat, propelled by ten stout oarsmen, carries the seine, and with one dory is towed astern the schooner until the school is overhauled, then casts off and leaps through the water under the vigorous tugs of its oarsmen. In the stern a man stands throwing over the seine by armsful. It is the plan of campaign for the long boat and the dory, each carrying one end of the net, to make a circuit of the school, and envelope as much of it as possible in the folds of the seine. Perhaps at one time boats from twenty or thirty schooners will be undertaking the same task, their torches blazing, their helmsmen shouting, the oars tossing phosphorescent spray into the air. In and out among the boats the schooners pick their way—a delicate task, for each skipper wishes to keep as near as possible to his men, yet must run over neither boats or nets belonging to his rival. Wonderfully expert helmsmen they become after

years of this sort of work—more trying to the nerves and exacting quite as much skill as the "jockeying" for place at the start of an international yacht race.

When the slow task of drawing together the ends of the seine until the fish are fairly enclosed in a sort of marine canal, a signal brings the schooner down to the side of the boats. The mackerel are fairly trapped, but the glare of the torches blinds them to their situation, and they would scarcely escape if they could. One side of the net is taken up on the schooner's deck, and there clamped firmly, the fish thus lying in the bunt, or pocket between the schooners, and the two boats which lie off eight or ten feet, rising and falling with the sea. There, huddled together in the shallow water, growing ever shallower as the net is raised, the shining fish, hundreds and thousands of them, bushels, barrels, hogsheads of them, flash and flap, as the men prepare to swing them aboard in the dip net. This great pocket of cord, fit to hold perhaps a bushel or more, is swung from the boom above, and lowered into the midst of the catch. Two men in the boat seize its iron rim, and with a twist and shove scoop it full of mackerel. "Yo-heave-oh" sing out the men at the halliards, and the net rises into the air, and swings over the deck of the schooner. Two men perched on the rail seize the collar and, turning it inside out, drop the whole finny load upon the deck. "Fine, fat, fi-i-ish!" cry out the crew in unison, and the net dips back again into the corral for another load. So, by the light of smoky torches, fastened to the rigging, the work goes on, the men singing and shouting, the tackle creaking, the waves splashing, the wind singing in the shrouds, the boat's bow bumping dully on the waves as she falls. To all these sounds of the sea comes soon to be added one that is peculiar to the banks, a sound rising from the deck

of the vessel, a multitude of little taps, rhythmical, muffled, soft as though a corps of clog-dancers were dancing a lively jig in rubber-soled shoes. It is the dance of death of the hapless mackerel. All about the deck they flap and beat their little lives away. Scales fly in every direction, and the rigging, almost to the masthead, is plastered with them.

When the deck is nearly full—and sometimes a single haul of the seine will more than fill it twice—the labor of dipping is interrupted and all hands turn to with a will to dress and pack the fish. Not pretty work, this, and as little pleasing to perform. Barrels, boards, and sharp knives are in requisition. Torches are set up about the deck. The men divide up into gangs of four each and group themselves about the "keelers," or square, shallow boxes into which the fish to be dressed are bailed from the deck. Two men in each gang are "splitters"; two "gibbers." The first, with a dextrous slash of a sharp knife splits the fish down the back, and throws it to the "gibber," who, with a twist of his thumb—armed with a mitt—extracts the entrails and throws the fish into a barrel of brine. By long practise the men become exceedingly expert in the work, and rivalry among the gangs keeps the pace of all up to the highest possible point. All through the night they work until the deck is cleaned of fish, and slimy with blood and scales. The men, themselves, are ghastly, besmeared as they are from top to toe with the gore of the mackerel. From time to time, full barrels are rolled away, and lowered into the hold, and fresh fish raised from the slowly emptying seine alongside. Until the last fish has been sliced, cleaned, plunged into brine, and packed away there can be little respite from the muscle grinding work. From time to time, the pail of tepid water is passed about; once at least during

the night, the cook goes from gang to gang with steaming coffee, and now and then some man whose wrist is wearied beyond endurance, knocks off, and with contortions of pain, rubs his arm from wrist to elbow. But save for these momentary interruptions, there is little break in the work. Meanwhile the boat is plunging along through

FISHING FROM THE RAIL

the water, the helm lashed or in beckets, and the skipper hard at work with a knife or gibbing mitt. A score of other boats in a radius of half a mile or so, will be in like case, so there is always danger of collision. Many narrow escapes and not a few accidents have resulted from the practice of cleaning up while under sail.

The mackerel, however, is not caught solely in nets, but readily takes that oldest of man's predatory instruments, the hook. To attract them to the side of the vessel, a mixture of clams and little fish called "porgies," ground together in a mill, is thrown into the sea, which, sinking to the depths at which the fish commonly lie, attract them to the surface and among the enticing hooks. Every fisherman handles two lines, and when the fishing is good he is kept busy hauling in and striking off the fish until his arms ache, and the tough skin on his hands is nearly chafed through. Sometimes the hooks are baited with bits of clam or porgy, though usually the mackerel, when biting at all, will snap with avidity at a naked hook, if tinned so as to shine in the water. Mr. Nordhoff, whose reminiscences of life on a fishing boat I have already quoted, describes this method of fishing and its results graphically:

"At midnight, when I am called up out of my warm bed to stand an hour's watch, I find the vessel pitching uneasily, and hear the breeze blowing fretfully through the naked rigging. Going on deck, I perceive that both wind and sea have 'got up' since we retired to rest. The sky looks lowering, and the clouds are evidently surcharged with rain. In fine the weather, as my predecessor on watch informs me, bears every sign of an excellent fishday on the morrow. I accordingly grind some bait, sharpen up my hooks once more, see my lines clear, and my heaviest jigs (the technical term for hooks with pewter on them) on the rail ready for use, and at one o'clock return to my comfortable bunk. I am soon again asleep, and dreaming of hearing fire-bells ringing, and seeing men rush to the fire, and just as I see 'the machine' round the corner of the street, am startled out of my propriety, my dream, sleep, and all by the loud cry of 'Fish

"I start up desperately in my narrow bunk, bringing my cranium in volent contact with a beam overhead, which has the effect of knocking me flat down in my berth again. After recovering as much consciousness as is necessary to appreciate my position, I roll out of bed, jerk savagely at my boots, and snatching up my cap and pea-jacket, make a rush *at* the companion-way, *up* which I manage to fall in my haste, and then spring into the hold for a strike-barrel.

"And now the mainsail is up, the jib down, and the captain is throwing bait. It is not yet quite light, but we hear other mainsails going up all round us. A cool drizzle makes the morning unmistakably uncomfortable, and we stand around half asleep, with our sore hands in our pockets, wishing we were at home. The skipper, however, is holding his lines over the rail with an air which clearly intimates that the slightest kind of a nibble will be quite sufficient this morning to seal the doom of a mackerel.

" 'There, by Jove!' the captain hauls back—'there, I told you so! Skipper's got him—no—aha, captain, you haul back too savagely!'

"With the first movement of the captain's arm, indicating the presence of fish, everybody rushes madly to the rail. Jigs are heard on all sides plashing into the water, and eager hands and arms are stretched at their full length over the side, feeling anxiously for a nibble.

" 'Sh—hish—there's something just passed my fly—I felt him,' says an old man standing alongside of me.

" 'Yes, and I've got him,' trumphantly shouts out the next man on the other side of him, hauling in as he speaks, a fine mackerel, and striking him off into his barrel in the most approved style.

"Z-z-zip goes my line through and deep into my poor fingers, as a huge mackerel rushes savagely away with

what he finds not so great a prize as he thought it was. I get confoundedly flurried, miss stroke half a dozen times in hauling in as many fathoms of line, and at length succeed in landing my first fish safely in my barrel, where he flounders away 'most melodiously,' as my neighbor says.

"And now it is fairly daylight, and the rain, which has been threatening all night, begins to pour down in right earnest. As the heavy drops patter on the sea the fish begin to bite fast and furiously.

" 'Shorten up,' says the skipper, and we shorten in our lines to about eight feet from the rail to the hooks, when we can jerk them in just as fast as we can move our hands and arms. 'Keep your lines clear,' is now the word, as the doomed fish slip faster and faster into the barrels standing to receive them. Here is one greedy fellow already casting furtive glances behind him, and calculating in his mind how many fish he will have to lose in the operation of getting his second strike-barrel.

"Now you hear no sound except the steady flip of fish into the barrels. Every face wears an expression of anxious determination; everybody moves as though by springs; every heart beats loud with excitement, and every hand hauls in fish and throws out hooks with a methodical precision, a kind of slow haste, which unites the greatest speed with the utmost security against fouling lines.

"And now the rain increases. We hear jibs rattling down; and glancing up hastily, I am surprised to find our vessel surrounded on all sides by the fleet, which has already become aware that we have got fish alongside. Meantime the wind rises, and the sea struggles against the rain, which is endeavoring with its steady patter to subdue the turmoil of old ocean. We are already on our third

barrel each, and still the fish come in as fast as ever, and the business (sport it has ceased to be some time since), continues with vigor undiminished. Thick beads of perspiration chase each other down our faces. Jackets, caps, and even over-shirts, are thrown off, to give more freedom to the limbs that are worked to their utmost.

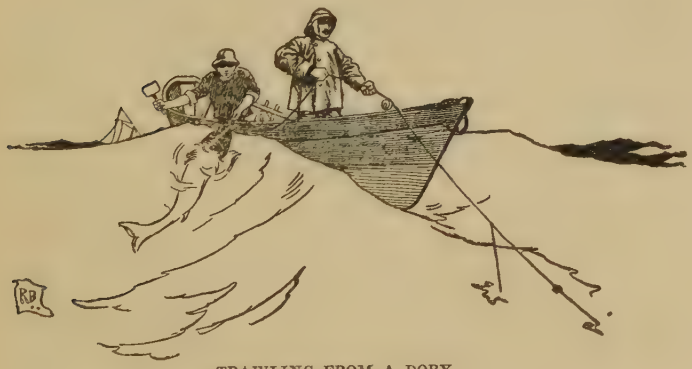
"'Hillo! Where are the fish?' All gone. Every line is felt eagerly for a bite, but not the faintest nibble is perceptible. The mackerel, which but a moment ago were fairly rushing on board, have in that moment disappeared so completely that not a sign of one is left. The vessel next under our lee holds them a little longer than we, but they finally also disappear from her side. And so on all around us.

"And now we have time to look about us—to compare notes on each other's successes—to straighten our backbones, nearly broken and aching horribly with the constant reaching over; to examine our fingers, cut to pieces and grown sensationless with the perpetual dragging of small lines across them—to—'There, the skipper's got a bite! Here they are again, boys, and big fellows, too!' Everybody rushes once more to the rail, and business commences again, but not at so fast a rate as before. By-and-by there is another cessation, and we hoist our jib and run off a little way, into a new berth.

"While running across, I take the first good look at the state of affairs in general. We lie, as before said, nearly in the center of the whole fleet, which from originally covering an area of perhaps fifteen miles each way, has 'knotted up' into a little space, not above two miles square. In many places, although the sea is tolerably rough, the vessels lie so closely together that one could almost jump from one to the other. The greatest skill and care are necessary on such occasions to keep them apart,

and prevent the inevitable consequences of a collision, a general smash-up of masts, booms, bulwarks, etc. Yet a great fish-day like this rarely passes off without some vessel sustaining serious damage. We thread our way among the vessels with as much care and as daintily as a man would walk over ground covered with eggs; and finally get into a berth under the lee of a vessel which seems to hold the fish pretty well. Here we fish away by spells, for they have become 'spirty,' that is, they are capricious, and appear and disappear suddenly."

Three causes make the occupation of those fishermen



TRAWLING FROM A DORY

who go for cod and halibut to the Newfoundland Banks extra hazardous—the almost continual fog, the swift steel Atlantic liners always plowing their way at high speed across the fishing grounds, heedless of fog or darkness, and the custom of fishing with trawls which must be tended from dories. The trawl, which is really only an extension of hand-lines, is a French device adopted by American fishermen early in the last century. One long hand-line, supported by floats, is set at some distance from

the schooner. From it depend a number of short lines with baited hooks, set at brief intervals. The fisherman, in his dory, goes from one to the other of these lines pulling them in, throwing the fish in the bottom of the boat and rebaiting his hooks. When his dory is full he returns with his load to the schooner—if he can find her.

That is the peril ever present to the minds of the men in the dory—the danger of losing the schooner. On the Banks the sea is always running moderately high, and the great surges, even on the clearest days, will often shut out the dories from the vision of the lookout. The winds and the currents tend to sweep the little fishing-boats away, and though a schooner with five or six dories out hovers about them like a hen guarding her chickens, sailing a triangular beat planned to include all the smaller boats, yet it too often happens that night falls with one boat missing. Then on the schooner all is watchfulness. Cruising slowly about, burning flares and blowing the hoarse fog-horn, those on board search for the missing ones until day dawns or the lost are found. Sometimes day comes in a fog, a dense, dripping, gray curtain, more impenetrable than the blackest night, for through it no flare will shine, and even the sound of the braying horn or tolling bell is so curiously distorted, that it is difficult to tell from what quarter it comes. No one who has not seen a fog on the Banks can quite imagine its dense opaqueness. When it settles down on a large fleet of fishermen, with hundreds of dories out, the peril and perplexity of the skippers are extreme. In one instant after the dull gray curtain falls over the ocean, each vessel is apparently as isolated as though alone on the Banks. A dory forty feet away is invisible. The great fleet of busy schooners, tacking back and forth, watching their boats, is suddenly obliterated. Hoarse cries, the tooting of

STRIKES A SCHOONER AND SHEARS THROUGH HER LIKE A KNIFE.

horns and the clanging of bells, sound through the misty air, and now and then a ghostly schooner glides by, perhaps scraping the very gunwale and carrying away bits of rail and rigging to the accompaniment of New England profanity. This is the dangerous moment for every one on the Banks, for right through the center of the fishing ground lies the pathway of the great steel ocean steamships plying between England and the United States. Colossal engines force these great masses of steel through sea and fog. Each captain is eager to break a record; each one knows that a reputation for fast trips will make his ship popular and increase his usefulness to the company. In theory he is supposed to slow down in crossing the Banks; in fact his great 12,000-ton ship rushes

REVENUE CUTTER

through at eighteen miles an hour. If she hits a dory and sends two men to their long rest, no one aboard the ocean leviathan will ever know it. If she strikes a schooner and shears through her like a knife through cheese, there will be a slight vibration of the steel fabric, but not enough to alarm the passengers; the lookout will have caught a hasty glimpse of a ghostly craft, and heard plaintive cries for help, then the fog shuts down on all, like the curtain on the last act of a tragedy. Even if the great steamship were stopped at once, her momentum would carry her a mile beyond the spot before a boat could be lowered, and then it would be almost impossible to find the floating wreckage in the fog. So, usually, the steamships press on with unchecked speed, their officers perhaps breathing a sigh of pity for the victims, but reflecting that it is a sailor's peril to which those on the biggest and staunchest of ships are exposed almost equally with the fishermen. For was it not on the Banks and in a fog that the blow was struck which sent "La Bourgogne" to the bottom with more than four hundred souls?

CHAPTER X

THE FUTURE OF OUR MERCHANT MARINE—HOW WAR STIMULATED IT—ACTION OF CONGRESS—DELAYS AND CONTROVERSIES—WOOD OR STEEL?—THE SHIPBUILDING PROGRAMME—THE INDUSTRIAL CITIES—THE PROBLEM OF LABOR—TWENTY THOUSAND TONS AFLOAT—INTERNATIONAL COMPETITION—COST OF MAINTAINING AMERICAN SHIPS—FINDING AND TRAINING THE SAILORS.

SO much for the past of the United States afloat. What is its present outlook for the future?

The great war at first enormously stimulated the demand for ships. Had the Germans observed the earlier rules of international law, and respected neutral rights at sea, a neutral nation like the United States would have built up the greatest merchant fleet the world had ever known. As it was our existing shipyards were crowded with work and every "old hooker"—as the sailors call them—could get a charter. Prices were amazing to old shipping men. Before the war began ships could be chartered for transatlantic service for one dollar a ton a month. After the war had been in progress for some months, and before we had entered upon it, this rate for service outside the war zone was $13.88 a ton a month, and for the war zone service the charge was twenty to twenty-one dollars. And it was difficult to get ships at those figures. Freight rates on cotton to Liverpool in 1914 averaged 35 cents per hundred

pounds. In 1912 they were $6.00. Ships salable at sixty to eighty dollars a ton before the war were eagerly sought at $300. It was not unusual for a ship to earn her cost on a single voyage. Naturally these prices caused a lively demand for ships, old and new, but it soon became apparent that it could not be met by unaided private enterprise. To establish a shipyard means a heavy expenditure of capital, running into tens of millions of dollars. To build a steel ship used to take well over a year, though war-time enterprise reduced this to an average of two months, while one vessel, the "Tuckahoe" was launched in 27 days and delivered ready for cargo in 37. But before the establishment of this record of speed and efficiency it appeared that a new comer in the shipbuilding trade would have to spend millions of dollars on his plant and not begin turning out completed vessels for nearly two years. Nobody could tell whether the war would last that long, and everybody knew that with the end of the war the charter value of ships would instantly drop. Naturally, therefore, private capital hesitated about embarking on so perilous an enterprise.

The situation attracted the attention of Congress even before our entrance upon the war, but with that event the creation of a merchant marine at any cost became imperative, and September, 1916, the Shipping Board was created with authority "to encourage, develop and create a naval auxiliary and naval reserve, and a merchant marine to meet the requirements of the commerce of the United States." In April of 1917 the United States being then actively at war, a subordinate corporation—The Emergency Fleet Corporation—was organized with a capital of $50,000,000 to build ships, and to cooperate with private yards in their construction.

Looking back upon the work then begun it is easy to discover grave faults in organization, instances of individual failure, seemingly wild extravagance, and a wide divergence from the highest forms of efficiency in the work of the Shipping Board, and its subordinate corporation. Much of this we may pass over hastily. Scandal is not history, and quarrels between otherwise eminent men over petty points of personal prerogative will be forgotten long before the ships the Government actually did build have begun to wear out. But it must be recorded that the nation was doomed to grave disappointment in the hopes it had formed of the rapid and business-like creation of a merchant fleet. The more eminent the men chosen for high service in this cause the more certain they seemed to quarrel among themselves over issues that seemed but trival to the public. There were repeated changes before an efficient organization could be formed and every change meant more delay. Very early in the history of the board came up the controversy between the advocates of wooden and of steel ships—and upon this rock of dissension the whole came near being wrecked.

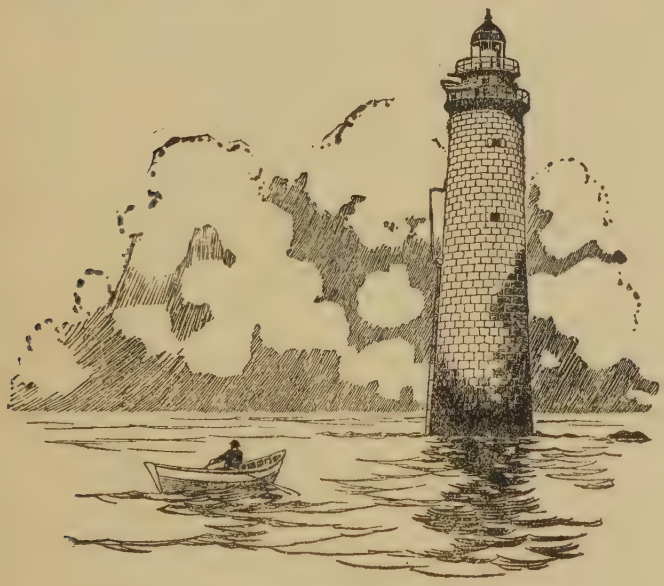
In this controversy great interests were arrayed against each other, and, furthermore, the honest convictions of many who had no special interest to serve enlisted them strongly upon one side or the other. The problem was to get a serviceable merchant marine in the quickest time possible. The advocates of an all-steel fleet laid heaviest emphasis on the word "serviceable." They insisted that the wooden ship was a thing of the past, and that, once the war was over, the nation would suffer heavily financially if left with a large fleet of such craft in its hands, as they were not economical to operate, and cost higher premiums for insurance.

The champions of wooden ships urged in response that it would be impossible to build an all-steel fleet in season to meet the emergency. Conceding that the steel ship was the better they insisted that the time required for building yards suitable for this form of construction and the delay that would necessarily attend the furnishing of steel by mills already overcrowded by orders for munitions would postpone to the distant future the completion of a fleet which should be ready to take our soldiers to the theater of war and carry over the supplies necessary to maintain them there. Nor did the advocates of wooden ships fail to point out the special advantages possessed by their form of construction in this particular emergency. We were building to beat the submarine. Of all vessels the steel ship suffers most from the explosion of a torpedo beneath her hull. A hole of from five to ten feet long, and equally broad is torn in the thin "skin of the ship," which is not more than three-fourths of an inch thick at most, and the weight of the hull, deprived of interior buoyancy causes it to sink immediately. Many steel vessels of considerable size were totally engulfed in less than two minutes after sustaining a torpedo shock.

A wooden bottom, on the contrary, is not so badly shattered by a torpedo explosion, while the natural buoyancy of the hull, unless laden with a particularly heavy cargo, will keep it afloat for some time after being torpedoed. In nearly every instance of the destruction of a wooden craft the submarine was forced to make her work complete by shell fire, or by sending a party aboard to put the torch to the victim. The annals of the sea are full of stories of wooden derelicts that floated for years after being abandoned by their crews as in a sinking condition.

MILES OF SHIPYARDS GROWING WITH INCREDIBLE SPEED UPON A MARSH

Like most hotly contested public questions this controversy was finally ended by a compromise. While the chief tonnage was to be of steel, considerable recognition was given to the builders of wooden ships. At the end of 1917 contracts had been awarded for 353 wooden vessels, and for 58 composite vessels, making a total of tonnage other than steel of 1,460,900. In the eager search



MINOT'S LEDGE LIGHT

for ways in which the fleet might most rapidly be increased marine architects turned to concrete as a shipbuilding material. To the unprofessional mind a ship of stone seems as ridiculous a conception as seventy-five years ago a ship of iron appeared to the multitude. But even before the war concrete barges had been employed, and the method of construction was reasonably perfected.

It was urged that the steel rods and bars used in re-enforcing the concrete construction could be made at the smaller mills and thus avoid interfering with those engaged in producing material for steel ships. Concrete could be made anywhere; was easily handled and molded to any desired form. After careful consideration a standard design for a concrete ship of 3,500 tons was adopted and contracts let. One such ship had been completed at the time of the publication of this book—the "Faith"—336 feet long with 45-foot beam. She had in the first six months of her service made the long run from Seattle to a Chilean port, thence through the Panama Canal to Chili again. An officer said of her, "She may not be good to look at, but she certainly delivers the goods." Her service afloat has as yet been too brief to justify conclusions as to the merit of concrete as a shipbuilding material. Its opponents argue that a hull of concrete would lack elasticity, and being rigid, would crack and yield under the weight of the cargo in the racking strain of a heavy sea. But its advocates deny this, alleging that a re-enforced concrete ship has all the elasticity of an all-steel ship. In fact, scientific tests have shown that steel and concrete have practically the same co-efficient of elasticity. From the standpoint of economy concrete leads all materials, it being estimated that the material for a 5,000-ton monolithic ship would cost $60,000, while the steel for a freighter of the same size would cost $300,000. Although the experience of the United States with this material has been too brief to be of much value, Norway has built and operated successfully many "ferro-concrete" ships. A curious fact is that the method of construction there compels their launching keel uppermost. They are righted in the water by a system of air-tight compartments.

In August, 1917, the Shipping Board made public its program. It sounded well, too well by far as the results showed eighteen months later. The first step was the commandeering of all vessels under construction in American yards, whether for domestic or foreign owners. This added at once 1,500,000 tons of partially completed ships to the American fleet. The question of compensation went over for later determination. But in addition to this the Government declared its purpose of going into shipbuilding on its own account on a colossal scale. The program announced on September 1, 1918, provided for 2,249 ships of wood or steel with a deadweight tonnage of 13,212,712; 32 concrete ships of 301,500 tons, and of ships requisitioned which were already in process of construction in private yards there were 402 with a gross tonnage of 2,790,000 tons.

The sudden stoppage of the war materially interrupted this program. Of that we will speak more definitely later. For the moment we may consider the steps which the Government took to prepare for the construction of the great fleet which war made necessary.

The requisitioned, or commandeered ships filled all the ways in the established private yards. The navy yards were chock-a-block with naval construction. If the merchant fleet was to be built in season to be of service in a war which it was feared might last four years—and which in fact lasted only twenty months after the United States entered upon it—new and enormous shipyards must be constructed. Private capital could not be relied upon for this work for reasons already set forth. Accordingly the Emergency Fleet Corporation gave financial assistance for the expansion of the existing yards, and established entirely new yards for which it advanced the money. Most notable of these corpora-

tions were The Submarine Boat Company, The American International Corporation, the Merchants' Shipbuilding Company and the Fore River Company, at Fore River, Mass. The first named established great yards at Newark, N. J., where at times as many as 14,000 hands were employed. The Merchants' Shipbuilding Company was located at Bristol, R. I., and the American International Corporation at Hog Island, near Philadelphia.

The last named established the greatest shipyard the world has ever known, and did it at a cost which might well stagger the nation, for it was built with public funds. Hog Island, lying eight miles from Philadelphia, in the Delaware, was a tract of 860 acres of swamp, and bog and salt marsh, valueless for the moment and held by speculators for future profit. When the Government needed it for shipyard purposes the barren waste became worth $2,000 an acre, which was cheerfully paid. One year from that time the swampy island was transformed, according to a report of the Department of Justice, into "a complete industrial city of 30,000 men, served by two trunk lines of railroad, with eighty miles of yard trackage of its own, with its own waterworks, filtration plant, sewage disposal plant, fire protection and police systems, with fully equipped shipways, shops, warehouses, engineering, administrative and welfare buildings, and equipped to deliver to the Government two completed 7,500-ton steel cargo vessels each week."

All of which was a notable achievement. But it cost prodigious sums of money. And moreover when the war came to its sudden close in November, 1918, one ship only had been completed—the "Quistconck," christened by Mrs. Woodrow Wilson in August of that year. The occasion was made duly dramatic by the presence of the

President, the service of a great collation to hosts of guests, and the attendance of a throng of tens of thousands of whom over 500 were prostrated by the heat.

When not long afterwards the cost of the plant which had completed that ship was made public it might well have prostrated many more than 500.

The estimated cost of the Hog Island plant, as presented at the time the contract was awarded, was $21,000,000. In November, 1917, the Government, recognizing that at the moment speed in construction rather than economy was the crying need, raised that estimate to $27,000,000. By the summer of 1918 the demands of the corporation for more funds had become so insistent, and rumors of reckless extravagance so current that an investigation by the Department of Justice was ordered. This investigation elicited the fact that the total cost would be nearly $64,000,000 of which, however, $9,000,000 was due to orders for additional tonnage from the Emergency Fleet Corporation.

At this moment one ship only had left the Hog Island ways, and that fact made the record of expenditure seem the more inexcusable. But that was an unfair way of considering the situation. The fifty ways in the yard each held a ship in more or less advanced stages of construction. The preliminary cost had been prodigious, but the yard was ready to turn out ships even at that moment at the rate of two a week, with the possibility of a record of four a week should they be needed.

Unluckily for the promotors and builders of the Hog Island and other plants the war ended suddenly. The crying need for ships was abruptly ended. Even those on the ways approaching completion could be dispensed with until completed at the leisurely pace of peace times. And whether, with peace, there can be found employ-

ment for this mighty center of shipbuilding will depend wholly upon the wisdom of the legislation by which the nation shall endeavor to build up again its merchant marine. It must be remembered that while this, the greatest of all shipyards, was being completed, others of less extent were being constructed, while each of the old private yards was developed to the utmost capacity of their territory. Not only at Hog Island, but at Fore River, at Bristol and at Newport News are now shipbuilding plants any one of which could undertake all the shipbuilding which was needed in the United States a decade ago. To find reasonable employment for all in future will be no easy problem.

Each of the great yards is a small city in itself. At Hog Island are twenty acres covered with buildings—shops, barracks, mess halls, storehouses, Y. M. C. A. buildings and a shipbuilders' school. More than $0,000,000 was advanced by the United States to meet the necessary needs. A city of 350,000 people could be supplied with the water supply system installed. Enough electric power is distributed to run the trolleys and electric machinery of Providence with its 300,000 people. Seventy-five miles of railroad within the yard are supplemented by hundreds of trucks, motor lorries and travelling cranes.

In all the great yards the questions of first getting the men and then housing them were of supreme importance. From the earliest days of the war the unemployed as a class had disappeared from the United States, the demands of the munitions factories absorbing labor to such an extent that the farm lands of the nation could hardly be worked. Scarcely had the shipbuilding program been determined upon when it became apparent that the nation was going to be dragged into war. That

meant the ultimate withdrawal from productive industry of not less than 5,000,000 men if the war should prove as long and bitterly contested as at that moment seemed probable. Half a million men would be needed for the shipyards. As a matter of fact no less than 625,000 were actually so employed in September, 1918. The problem of where and how to get them was one to puzzle those who must solve it.

Moreover, shipbuilding calls for men of a multitude of trades. To erect the shipyards required armies of unskilled labor, but to build the ships demanded men skilled in trades and handicrafts. Machinists, metal workers of every class, acetylene and electric welders, plumbers, foundrymen, electricians, cabinet workers all find occupation on a modern steel ship. A special type of labor known as shipwrights is required in building wooden ships. It had been thought that men bred to this trade had largely disappeared with the decadence of the industry, but in 1917 an appeal sent out through the agencies of the Federal Employment Service produced the names and addresses of 12,000 ship carpenters within forty-six hours.

While this was reassuring it did not wholly meet the needs of the moment. To build the ships which we expected to need during the war required an army of trained workmen that at the moment simply did not exist. Just as ore from the ground had to be worked over until it became steel plates all ready to be bolted to the frame of a ship, just as clerks and peddlers and bootblacks had to be caught up by the draft and painstakingly educated until they were fit to be soldiers, to fight and to be killed, so the raw material of the shipworkers had to be drawn from trades resembling those they were to practice and educated to the point of efficiency. Accordingly

under the general supervision of the Federal Board of Vocational Instruction schools in shipbuilding, and its various trades were established not merely at each of the great yards, but in many colleges, and trade, technical and manual training schools. In this way a great body of mechanics skilled in the component trades which go to making up a great ship was rapidly being built up when the conclusion of peace laid a staying hand upon all this work.

The building up of any great new industry—and shipbuilding on a large scale was virtually new in this country—creates new issues and educates the public mind to problems of hitherto unsuspected importance in industrial organization. Only in a few great concerns prior to the war had the importance of what was known as "the labor turnover" been recognized. The phrase expresses succinctly the volume of changes in the working force due to a haphazard system of "hiring and firing." It has taken centuries for great organizers to discover how heavy is the burden laid upon their institutions by a system which has made the discharge of a workman the only penalty for the violation of discipline or failure in efficiency. The roving tendency of workmen, ever ready to shift from plant to plant, or from job to job, often as much in search of novelty as in order to better their condition is a considerable factor in the problem. At one time in the Hog Island yard it was found that more than seven times as many men were hired during the week as were left on the payroll on Saturday night. In one yard, in November, 1916, before the war had added to the stringency in the labor market, it was found that of 3,000 men employed less than half had stayed with the concern for eleven months. With this as a basis it was computed that to keep 500,000 men at work in the shipyards

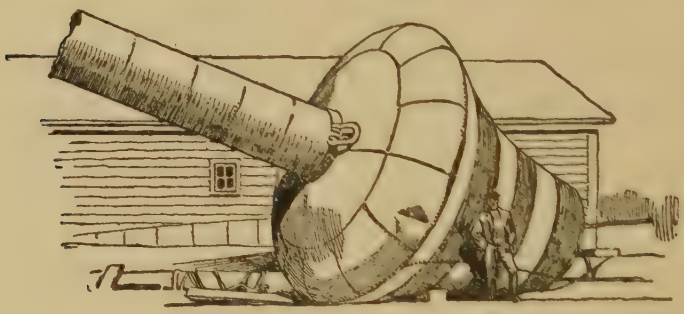
each year will have to see more than a million hired. It is estimated by large employers that to fit an ordinary unskilled workman for the duties of his job costs from five to ten dollars, while an expert workman is worth from thirty to two hundred dollars. A foreman well equipped for his place, may represent a value to his employers of several thousand dollars.

Accordingly all large employers of labor are trying to reduce this "labor turnover" as much as possible, and to the Shipping Board, with its supervision over a labor army that would reach far into the hundreds of thousands it was a problem of vital importance.

The first necessity was for the construction of homes for the workers near the plants in which they were employed. To aid in this work Congress made an initial appropriation of $50,000,000 and other expenditures were made from Government funds. At Hog Island over 5,000 houses were erected, and at Newport News and Bristol small cities were created as by magic for the use of the shipworkers.

Perhaps it was because of the feeling of our people that most of the war-time industries, even shipbuilding, would fall into decadence after the war is over that our Government did not emulate that of Great Britain and build permanent towns for these communities of workingmen. In England the Government encouraged with loans and direct gifts the establishment of permanent industrial villages around the munition plants. It is the belief of the Government there that these plants will now be turned to other productive uses, and that the houses will still be needed for the workers. Permanent school buildings, parks, playgrounds, waterworks, stores and theaters are provided. With us the villages have more of a temporary air, resembling army canton-

ments. Barracks and frame cottages are the rule. At Bristol, however, with the financial aid of the Emergency Fleet Corporation, a model town was laid out adjoining the shipping plant. This little city of Harriman was planned from the bottom, with spaces set aside for schools, churches and public parks, and the locations of is quasi-public institutions, like the theater, hotel and department store indicated. Brick and stucco are the materials used, and for families are individual houses of six rooms each, 232 group houses, and a great number of apartment and boarding houses. For bachelors are



WHISTLING BUOY

lodging houses, dormitories and a number of small bungalows. The result is a pleasing town in which comfortable homes, at cheap rents, and many advantages only enjoyed in larger cities are offered to the shipyard workers. Hog Island, being close to the city of Philadelphia, needed less elaborate arrangements for housing its working people, but both there and at the plant of the Submarine Boat Corporation at Newark the need that exists has been met by the erection of scientifically designed dwellings.

It may be said, however, that in housing their workingmen, in providing for their comfort and entertainment —at Hog Island is a fine band, several theaters and a magnificent Y. M. C. A. building—and in guarding by agreements with labor unions against strikes or lockouts, the American shipbuilders' organizations have done about all that is possible to make labor contented, and the conditions of employment permanent.

What is the total of tonnage that will eventually emerge from these yards it is impossible to say at the moment. In addition to ships building in the United States contracts were awarded for 40,000 tons in China and for thirty vessels aggregating 245,850 tons in Japan. In 1918 the President took over 700,000 tons of Holland shipping then lying idle in American ports. New vessels completed in American yards up to September, 1918—the latest report available—aggregated 401 with a total tonnage of 2,340, 223. When the armistice was signed in November of that year the sea-going tonnage of the United States numbered about 1,500 ships, ranging from the tramp of 1,200 tons to the magnificent German-built "Leviathan," originally the "Vaterland," with a tonnage of 54,000 tons. The Government owned outright 570 steamships with an aggregate tonnage exceeding 3,000,000 and of these 469 of 2,500,000 dead-weight tonnage were new ships built by the Emergency Fleet Corporation. In all the Shipping Board controlled at this period not less than 10,000,000 dead weight tons of high-class, deep-sea ships.

It was at that time the forecast of Chairman Hurley, of the Shipping Board, that by 1920 the American merchant fleet would aggregate 25,000,000 tons. But it became apparent, shortly after the armistice was signed, that this estimate must be materially revised downward.

For with the end of the necessity for sending troops to Europe came the prospect of the return of the army already there, and the consequent slackening of the need for ships for munitions and supplies. Moreover, peace brought the end of the submarine campaign, and ships once in service had only the ordinary perils of the deep to encounter. Accordingly many contracts were cancelled by the Government, of course at a heavy loss, and overtime work and "speeding up" were abandoned in the shipyards.

A number of contracts were summarily cancelled in cases where labor troubles threatened construction, and a compromise between employer and workman was difficult if not impossible to secure. The United States, being in no extreme need of the shipping involved, took the view that in such cases the simplest method would be to cancel the job which furnished the profit over which "boss" and workman were fighting. It was believed that a few such cancellations would act as a deterrent to other similar dissensions.

Whatever its effect upon the labor problem it is evident that this policy, coupled with the wholesale cancellation of contracts, and scrapping of work already done, means a very material reduction of the American merchant marine below the figures fixed at the outset by Mr. Hurley. Competent authorities estimated the United States tonnage afloat, or approaching completion, in February, 1919, at 11,500,000 tons. Great Britain at the same time was credited with 16,200,000 tons. But of the American fleet fully half is registered as lake or coastwise shipping.

Comparisons of this sort, however, are but unprofitable. The question before the American people is not whether they are to be first upon the sea, but whether

they are going to build, man and operate a purely American merchant marine, adequate to our needs in war and peace, and capable of extending American trade and influence to all quarters of the globe.

So far as the shipbuilding program goes there is every reason for confidence in the attainment of this ideal. Even with the curtailments already made and those which will inevitably follow, we shall have by 1920 a fleet of ocean-going cargo ships that need fear no foreign rivalry. Then we will be confronted with the difficulty of operating them at a profit in the presence of foreign competition in a world market. Our coastwise trade, and our lake shipping are protected. But the Seven Seas are open to all, and the American ship trading to Yokahama, Rangoon or European ports must compete in an open market for its freights.

That American ship will, to begin with, have cost much more to build. As matters now stand the ships built in our yards under war pressure represent an average cost of from $200 to $250 per ton, as against $75 a ton in British shipyards. Bear in mind, when we speak of an American merchant marine we mean one built in American yards as well as manned by American sailors. With the exception of Great Britain, and Germany now out of the running temporarily, no nation has ever insisted upon both of these qualities in the ships under its flag. Many of the best ships of Japan and Norway, to note only two of our competitors, were built on the Clyde or Tyne—the world's cheapest shipyards.

Only the United States faces the problem of maintaining a deep-sea fleet, built in the most expensive yards, and manned by the most highly paid seamen.

It must be kept in mind that the present cost of ships is based very largely upon the feverish and extravagant

methods of construction compelled by war-time needs. This fact applies to British-built ships as well as those of American construction, but to a less degree. In times of peace, however, the superior efficiency of American labor goes far to make up the difference in the wage scale between the United States and England. Moreover, wages in the British shipyards will never fall to the standard maintained before the war. It is probable, therefore, that in future the initial cost of vessels from British and American yards will be more nearly equal. It is already apparent that the high cost of the present American merchant fleet due to war construction will be reduced by charging off more than a billion dollars as the share which the nation as a whole must pay for the creation of the fleet which was to serve it through the critical days of a great war.

So much for the initial cost of the fleet—an important factor in the later cost of operation for interest upon the cost of the ship must necessarily be reckoned into the cost of operation.

Chief of the operating costs comes the question of wages. Here at once we encounter a serious difficulty. Japan, which alone among our serious rivals afloat, pays more for its ships than do British shipowners, is able to make up for this handicap by the extremely low wages of its seamen. All oriental wages are, in comparison to those of American workingmen pitfully small. England recognizes this fact and mans her ships in great part with Chinese coolies or Lascars. American labor cannot and should not be asked to compete with seamen of this grade.

Enthusiastic writers concerning the future of the United States on the sea are too apt to gloss over this very serious obstacle to our preëminence afloat. Congress, responsive to a healthy public unwillingness to

have any sort of American labor degraded to Oriental standards, has guarded against this in a seaman's law, bearing the name of Senator LaFollette, but in fact prepared by Andrew Furuseth, the able and devoted head of the seaman's union. This law by providing that 75 per cent of the seamen on any American ship must be able to understand commands spoken in English, bars at once the employment of cheap Asiatic labor. But it also adds at once to the cost of operating an American ship. How the handicap is to be removed without degrading the American sailor is the problem now vexing shipowners and legislators interested in building up an American marine. Chinese and Japanese firemen and deckhands on the Pacific receive $7.50 to $9.00 a month; Americans at least $45. How is this difference to be equalized? On the Atlantic foreign ships are more and more coming to carry cheap Asiatic crews.

The true author of the LaFollette law is, as this is written, in Europe endeavoring to make international rules for ameliorating the condition of the sailor. Whether this can be accomplished is exceedingly doubtful, although the growing strength of labor organizations in England will doubtless help. Indeed, some progress had been made as this was written. Should the endeavor fail only the action of Congress in equalizing the difference in wages on American and foreign ships can save the former from defeat in the race for maritime supremacy.

Because of war-time conditions any precise estimate of the comparative cost of building and operating American and British ships at the present moment is futile. But the following table shows at a glance the handicap under which American shipowners labored prior to the war:

	British, 8,001 tons	American, 7,914 tons	Excess Expense of American	Per cent Excess
Cost of steamship	$647,640	$1,010,135	$362,495	56
Wages, crew, per annum	20,421	37,410	16,989	83
Victualing crew, per annum	9,490	11,862	2,372	25
Interest, 6% per annum	38,858	60,608	21,750	56
Depreciation, 5% per annum	32,382	50,507	18,125	56
Insurance, 3% per annum	19,429	30,304	10,875	56
Repairs	12,000	14,400	2,400	20
Total	$132,580	$205,091	$72,511	54.7

It requires only an elementary knowledge of business to discern the fact that competition under such conditions is impossible. And beside the immediate advantage of cheaper ships and lower seamen's wages the British shipowner had other most effective aids in his struggle for supremacy upon the seas. Some of these are natural and can never be overcome by aspiring rivals. Others are artificial, and it behooves any nation seeking an honorable place in world-wide commerce to study these and see how they can best be met.

The world-wide distribution of British coaling stations gives that country a decided advantage over all rivals. Not only have discriminations been practiced against other than British ships in time of peace, but during the war, prior to the entrance upon it of the United States, American sea captains were not infrequently forced to sign agreements against trading to certain ports suspected of aiding the enemy before British officials would furnish them with coal. This menace to a truly independent American merchant marine must be met, but the method is not at the moment evident. We have but few colonies, and the temper of our people is decidedly against materially increasing their number. The establishment of a chain of coaling stations in territory owned by other nations offers obvious perils in war times, while to create them before we have a merchant fleet demanding them would be a sort of fore-

sight not characteristic of Congress. But to await the creation of the fleet before establishing the coaling stations would be a little like the case of the tenant of the leaky cabin told of in the "Arkansaw Traveler." When it wasn't raining there was no use fixing the roof; when it rained of course he couldn't do it.

A second obstacle was largely removed by the action of the United States during the war. The English agency known as "Lloyds," which establishes the rating ships and insures them has always been a distinctively British organization, not scrupling to discriminate in favor of the home fleet. Accordingly from the earliest days American ships have had to submit to discriminative rulings in order to secure rating and insurance. During the war, however, the United States Government undertook the insurance of its own vessels, and there is no doubt that the continuance of this system will make American shipping independent of Lloyds.

But if we overcome by Government aid or in any conceivable way the disparity between the initial cost of American ships and those built abroad, if by the revision of our navigation laws and the establishment of subsidies we reduce the cost of operating an American ship to approximately that of a British or Japanese merchantman; if we get the American mind turned toward the sea so that our capitalists look toward it as a place of investment, and our boys as a place for a career; if we establish a far-flung system of coaling stations, and free ourselves from the domination of Lloyds, there still remains one vital need for the maintenance of a great merchant marine.

Cargoes! A merchant marine without loaded bottoms each way is unthinkable. And at this point the established American policy of protection to home indus-

tries intervenes to make more difficult the work of keeping our merchant ships prosperous. Despite such mitigation as a democratic administration has effected the national policy is still to buy as little abroad as possible; to manufacture and produce all we need for home consumption and to export the surplus. Such a policy hardly makes for the symmetrical and profitable development of an ocean merchant marine.

Beyond question the enormous predominance of Great Britain on the seas is due as much to the fiscal policy of the nation as to specific acts for its encouragement. England is at once a great manufacturing country, a free-trade country and a country forced to import nearly all of the food needed for home consumption. It is the greatest exporting country in the world, and the ships that go out heavy laden with manufactured goods, and with coal with which Britain supplies a great part of the world, bring back great cargoes of foodstuffs and raw materials for the English people and the English factories.

Until recently the United States has had no occasion to import food, and with proper conservation and utilization of our national resources we never should have. Our fiscal policy has endeavored to build up our manufacturing industries by shutting out the products of foreign factories. Accordingly during the half century which witnessed the decline of the United States merchant marine maritime commerce with our nation was a somewhat jug-handled affair. Ships, usually under foreign flags for we had ceased to have any of our own, came to our ports seeking cargoes of food or raw materials. They brought in little to us. Indeed, foreign shipping firms had come to rely so little on income from their western voyages that many ships came across in

ballast or took such freight as would find a market in the United States for the mere cost of loading and discharging it. But one way business is a poor support for a great mercantile fleet. England by natural conditions which make her a great importer of foodstuffs and exporter of coal and manufactured goods held the ideal position for a maritime nation, and buttressed that position by a free-trade policy, and liberal subsidies. Germany forty years ago was in much the position of the United States to-day. But she built up her enormous merchant fleet by liberal, almost extravagant, Government aid, and developed an export trade to supply her ships with outgoing cargoes by an elaborate and far-reaching system of Government assistance. The German manufacturer was taught that it was worth while to sell his goods abroad for a smaller profit than at home. When this lesson was heeded the Government found him the markets and the ships to reach them. The result was the second merchant fleet on the ocean, and the development of German export trade to an extent that made England nervous. The war has changed all that, and if we are wise enough to give some heed to the lessons Germany taught, we may win the place in the commerce of nations which she threw away in the mad race for military conquest.

Primarily the nation must itself be convinced of the profit to be derived from the extension of international trade, and the upbuilding of our merchant marine. When there were greater things to be done ashore, the active and adventurous spirits of the American people turned away from the ocean. If now, as seems to be the case, the internal development of our country has reached a stage which will enable our captains of industry to look abroad for profitable fields, we may expect that the

limitations which now seem to hedge in our merchant marine will be broken down and the United States will resume its rightful place on the oceans.

Comes at last the final question, "Suppose we have our ships built, with every fair prospect of international trade in volume sufficient to keep them busy; how shall we find sailors to man them, and officers fit to command?"

This is no easy problem. It may be said at the outset that we want no American merchant marine the sea-

LAUNCHING A LIFEBOAT THROUGH THE SURF

men of which are underpaid, underfed and forced to live under Asiatic conditions. It is quite true, and it would be folly to evade or conceal the fact, that in the palmiest days of our merchant marine, the period of the clipper ships to which we point with pride, the men in the forecastle were treated like slaves and fed like dogs. A high type of public conscience precludes any thought of a return to this condition. We are neither going to man

our ships with Lascars nor with Coolies, nor shall we force our seamen to live as these Asiatic types are willing to live. The La Follette seamen's law has for its excuse the effort to guard against this, and while there is much in it that must be corrected in the light of practical experience, there is no doubt that its fundamental principles,—American seamen for American ships, and American wages for American seamen,—will prevail in all legislation affecting our merchant marine.

Meantime the government is making every effort to induce young Americans to enter the merchant marine as a life's profession.

The Recruiting Service of the United States Shipping Board, with its headquarters at Boston, is endeavoring to interest American boys in the sailor's career, and with a generous measure of success. The Director of Operations for the Shipping Board sets forth the purpose thus:

> We want to attract to the sea the kind of American boys that older men among us remember in their own school days—nice, clean boys, who had good homes, and left them amid the old family discussion as to whether they should be bankers, insurance men, retail merchants, or what not. To-day, we want to add to this list of careers for our American boys that of the pursuit of the sea. We want to attract to it, among others, boys who come from college, and who know how to swim and play football. We want to make conditions in sea-going such that they will feel it is the best destiny they can find.
>
> We want to get good men and train them to be good seamen and then good officers—or good foreign representatives in commercial or industrial lines, and agents on the staffs of steamship companies, at home or in foreign ports.

A young American selecting a career naturally asks what are the rewards open to faithful and efficient service in that career. Setting aside for the moment the possibilities of graduating from actual sea service to the

shore management of lines, or a position as commercial agent in some foreign country we find the wage scale for officers adopted by the Shipping Board to-day as follows:

RATING	PAY PER MONTH
Captain	$230 to $300
1st Mate	140 to 165
2d Mate	125 to 150
3d Mate	110 to 135
*4th Mate	115 and 120
Chief Engineer	$160 to $230
1st Asst. Engineer	140 to 165
2d Asst. Engineer	125 to 150
3d Asst. Engineer	110 to 135
*4th Asst. Engineer	115 and 120

Graduates of United States Shipping Board schools serving as Junior or Sub-Junior officers receive $90 a month, with no bonus.

There is no reason to anticipate any reduction in this scale of wages. Indeed with the increase in the size of our merchant fleet the need for more officers may well result in the increase of the wage schedule. Bear in mind that all living expenses are met while at sea. If American boys will inquire among their friends as to how many may be sure of from $125 to $250 a month above board and lodging they will find that the rewards of sea service are not below those of shore-keeping occupations.

Let us consider now how a boy, let us say from the Kansas prairies with no maritime experience, may put his foot on the sea ladder that leads to the quarter deck.

*Carried only on the largest ships.

THE EXCITING MOMENT IN THE PILOT'S TRADE.

He must to begin with be 18 years of age, an American citizen and physically fit. After making a formal application at an enrolling station upon blanks to be obtained by writing to the Recruiting Service Custom House, Boston, he awaits his call to service. Within about a week he will be summoned for physical examination and, when accepted, will be sent to the nearest training ship, paying his own railroad fare but being reimbursed on enrollment. These ships are scattered about the ports of the United States on both oceans, the largest being the "Meade," once the ocean greyhound "City of Berlin," at Boston. The "Iris" that was with Dewey at Manila is at San Francisco. Arrived at his destination the recruit is at once put on the payroll for $30 a month, and furnished with a uniform and equipment the cost of which will be charged to him. He then becomes a naval apprentice, and, if he has already had some experience at sea will be sent out at once on his training ship for a practice voyage. Otherwise he is given shore training for a time. The whole course on a training ship occupies one or two months according to the capacity and industry of the apprentice. When it is completed he is given a berth on a regular merchant ship.

Boys of an earlier generation than this used to read with delight, "Oliver Optic's" books of the "Young America" series in which fortunate youths of wealthy families were enrolled in a school on a sailing ship which carried them about the world, while at the same time their ordinary studies were prosecuted under capable masters. To-day Uncle Sam offers almost the same education, throwing it open to the poorest, and even paying boys while their education is in progress. The ships on which they are trained are modern, well

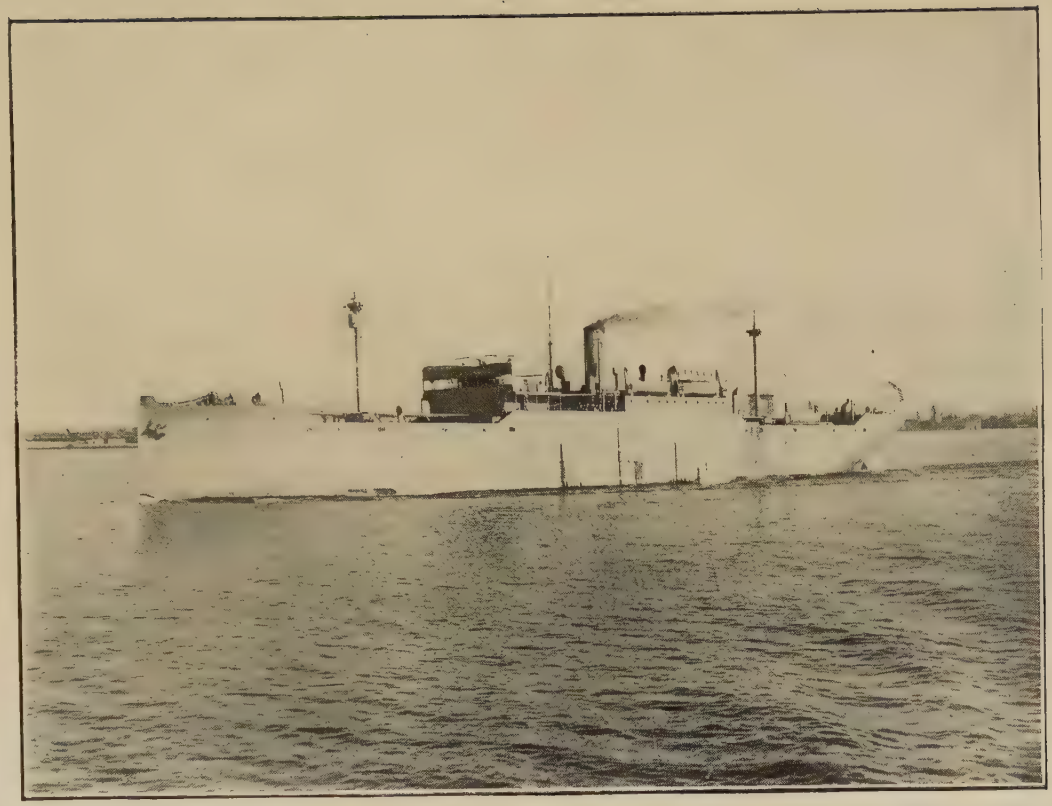
equipped steamers, withdrawn for this purpose from active mercantile service. They are steamheated, generously equipped with baths, and with many facilities for exercise and recreation. The discipline is that of the United States navy, not unkindly but advantageous in the development of character. Boys are kept on the training ships not a day longer than is necessary. From one of the official publications the following account of the work, and the apprentice's prospects is taken:

"Particular attention is paid to the routine of life on shipboard, to boat drill and to fire drill. The apprentices who are to become sailors are drilled also in seamanship, lookout, knowledge of the compass and the handling and splicing of ropes. Firemen are drilled under trained men in the work of handling fuel and making steam. Cooks and messmen are given actual instruction in galley and messroom under experienced instructors. Each instructor, so far as practicable, is in charge of only 10 men, which insures individual attention to each of the apprentices in his charge.

"The inexperienced man trained by the course of instruction thus provided becomes qualified in the shortest possible time to serve his country in its merchant fleets.

"When he has finished his training as an apprentice he takes his place in actual work at sea beside experienced men who will respect his legal status among them. Not only the sailors, but the firemen, coal-passers, cooks and messmen that come off the training ships start in their tasks at sea with the knowledge that they are wanted and welcome on the new vessels of the merchant marine.

"A graduate from a United States Shipping Board Recruiting Service training ship who has had some actual experience about the water—especially if it has been yachting experience—usually may qualify as a



ONE OF OUR NEW MERCHANTMEN

boatswain or quartermaster after a few months in actual service.

"The young American merchant sailor knows that after a total of two years' sea experience he may enter a United States Shipping Board school in navigation to fit himself for an officer's license; that in three years he can pass through all three grades as mate—3d, 2d and 1st in order—and that his next step in promotion is to the command of a ship. An apprentice who chooses the engine room branch of the service may advance from fireman to oiler or water-tender, and after two years' service become eligible for a license as third assistant engineer—a step in promotion toward the position of chief engineer."

The positions for which the men who have undergone this training are fitted, with the wages attached to them are shown in the following table, the rating for which apprentices are trained being shown in black type:

DECK DEPARTMENT

RATING IN SERVICE	PAY PER MONTH
Carpenter	$90.00
Carpenter's Mate	85.00
Boatswain	85.00
Boatswain's Mate	80.00
Quartermaster	77.50
Able Seaman	75.00
Ordinary Seaman	55.00
Deck Boy	40.00

ENGINE ROOM

***Oiler**	$80.00
***Water-tender**	80.00
Engine Room Storekeeper	80.00

Fireman	75.00
Coal-passer	65.00
Wiper (on oil burners)	65.00

STEWARD'S DEPARTMENT

Chief Steward	$100.00 to $145.00
Chief Cook	100.00 to 120.00
Baker	95.00 to 105.00
Second Cook	90.00
Second Steward	85.00
Butcher	85.00
Second Baker	75.00
Storekeeper	75.00
Pantryman	65.00
Vegetable Cook	65.00
Third Cook	60.00
Messman	60.00
Scullion	60.00
Messboy	55.00

But positions of this sort, though honorable and not unprofitable, do not measure up to the ambitions of the true American boy. He wants to get to the top—to be in command. In the old days the smart, active sailor studied a little navigation aboard, learned to make a reckoning by rule of thumb, attracted his captain's attention by alertness and intelligence and got to be second mate.

Nowadays sea-faring has become more of a profession—indeed, a good many of the luminaries of the "learned professions" ashore have had less exacting elementary training than is demanded of the would-be-captain or chief engineer to-day.

The first step toward securing a station in the mer-

*Special training at Chicago for these ratings.

chant marine equivalent to a commission in the navy is attendance upon one of the Shipping Board's Free Training Schools for Merchant Marine Officers. The mere admission to these schools requires some special qualifications. The schools are not for landsmen. Whether the applicant desires to fit for a deck officer or an engineer he must have had at least two years sea service. Moreover, he must be an American citizen under 56 years of age and in good health. The course is but brief —from four to six weeks, and is designed mainly to add a scientific and technical knowledge to the practical training derived from years of arduous sea service.

We find, therefore, that the rush of preparation for a prolonged and desperate war—which on our part proved to be but brief—has resulted in providing the United States with a magnificent merchant fleet, the nucleus of a necessary body of American sailors, and the facilities for educating both officers and seamen in the numbers that will be necessary for manning the fleet.

There are already indications that young America is responding to the call of the sea. It is estimated that since the beginning of the war not less than 250,000 men have been furnished to the merchant marine by the branch of the navy that undertook this service. These men are now in the United States naval reserve, and their period of enforced service will end with the passing of the war-time emergency. But many have felt the charm of the sea, and would continue in it if they could receive wages commensurate with those they could earn on land. It has been suggested that the Government might meet this situation by enrolling all American sailors in the Naval Reserve. The shipowners would in such event pay the seamen the rate of wages fixed by competition with British ships, while the Government

would pay the difference between that and an American standard of wages. Objection will be made to this that it is using public funds to advance a private interest. But there is in the first place the answer that such payments are made to maintain and to keep at command a body of trained seamen ready to serve the nation in time of war. With such a body of men subject to call already serving on American ships the navy would be supplied with all its needed auxiliary ships and all needed seamen in a few hours after the declaration of war. It is doubtful whether the gross expense of such a system for the next quarter of a century would exceed the cost to which the country was put in 1917 in hastily extemporizing an auxiliary fleet and in recruiting the men to man it. While, if it had not been for the British fleet which stood between us and disaster, the price of our naval unpreparedness in that war might have been more than enough to have supported such a paid naval reserve for centuries to come.

But it is a question whether a great merchant marine should be looked upon as purely a private enterprise and as such debarred from receiving aid from the public treasury. To begin with it carries the mails, and for that service is entitled to payments from the treasury which cannot justly be called subsidies any more than similar payments to the railroads are subsidies. Moreover, it extends the trade of the United States and opens far-off sections of the world to our merchants. To some extent this service is analagous to that performed by our Pacific railroads in their earlier days, for which they received huge grants of public land from the national government, and considerable subventions from the States which they traversed.

More and more the United States is becoming a great

manufacturing nation. About twenty years ago a famous railroad builder, the late James J. Hill, was ridiculed when he said that the time was in sight when the United States would have to import food for its people, but his prophesy came true and speedily. But while it is not probable that we shall ever be dependent upon foreign lands for food, it is evident that we must turn to them for markets for our products. No progressive nation can ever be wholly self-sufficient. It must carry its trade and its influence into foreign parts, and only through an adequate merchant marine can this be accomplished.

The United States to-day faces a critical moment in its history. It has afloat or approaching completion at least 20,000,000 tons of deep-sea shipping. It has already enrolled in its Naval Reserve a great body of able seamen fit to man these ships. It has provided the educational machinery for turning these sailors into officers. It has an industrial community equipped for turning out goods of every sort for the markets of every country.

In brief we have what might be described as the "plant" for the creation of a great and prosperous merchant marine. What are we going to do with it? Scrap it? Or use it to the fullest extent in the maintenance of American power on the high seas?

What shall we do with the ships built or building? Their initial cost has been at least twice that of their competitors under foreign flags. It is easy enough, and proper enough, for the Government to charge off this excess to the account of war expenditures. But what then? The ships belong to the Government and are controlled by the Emergency Shipping Corporation, the existence of which terminates five years after the conclusion of the war. It is urged that the Government should retain title to the ships and lease them to operating

companies at so moderate a figure that these companies would well be able to purchase them at the expiration of the five years' period. Others hold that the Government should sell the ships outright, at prices to be fixed in the open international market. The immediate objection to this is the danger that the ships might at once be sold to foreign buyers or transferred to a foreign flag in order to gain the advantages of cheaper operation. There are those who contend that the laws governing the operation of American ships are so burdensome that a man could not accept a ship as a gift and operate it at a profit.

Indeed, it is probable that a condition precedent to any disposition of our ships must be the radical amendment of our navigation laws and the establishment of a fixed and continuous policy of encouragement to our shipping. What form this encouragement should take may well puzzle the most earnest advocates of a revived American merchant marine. The most commonly advocated system is one of subsidy, and it seems in the main to have been effective with both British and German shipping. Yet after all to subsidize our ships merely stimulates foreign nations to subsidize their ships more heavily. The story has already been told in this book of the establishment of the Collins Line by aid of a subsidy, but it was driven out of existence mainly by larger subsidies granted by Great Britain to the Cunard Line. Moreover, when the Collins Line was subsidized it quickly drove out of the field other American lines which did not enjoy a subsidy. This effect of subsidizing a single corporation has been made very evident in the history of both British and German shipping.

The United States tried the subsidy plan in 1891 when it was masked under pretext of simply paying for the

carriage of the mails. It offered four dollars a mile for the outward carriage of mails on ships of 8,000 tons with a speed of not less than twenty knots. As a result of the awarding of this subsidy the American line built two ships of excellent quality for that time, the "St. Paul" and the "St. Louis" and was permitted to transfer to the American flag two other ships of foreign construction. That is all that was accomplished by this particular essay in the encouragement of the transatlantic merchant marine. No other ships were built. When the war opened the "St. Paul" and "St. Louis," then more than twenty years old, had been degraded to mere second-class ships in the passenger trade. They still enjoyed the mail contract, however, and naturally as long as the company operating them had that advantage no new company could successfully compete with them. By the same law smaller ships of lesser speed designed for traffic with South America were also awarded mail contracts. But exactly as in the transatlantic field so in the necessary lines of communication with Central and South America the subsidy plan proved unavailing to build up an adequate fleet.

The advocates of subsidy claim that the remedy for these failures would be more subsidies. In brief they charge the nation with having been too niggardly to achieve the object it desired. That is yet to be proved and it is possible that the new mail compensation law of 1917 may help to demonstrate it. Under that law the post office department may make contracts for the carriage of the mails at $8.00 per ton for outgoing voyages, the ships to be not less than 35,000 tons and of a speed not less than thirty miles an hour. As the United States has at present no ships meeting these requirements, with the exception of "Leviathan," which was taken over from

the Germans, this law has not yet been put to the test. Nor in 1909 was there any word that any American shipbuilders were planning the construction of vessels for the purpose of enabling them to take advantage of this offer.

It is probable that the next few years will witness a very heated debate on the question as to how an American merchant marine may be maintained. Because of the artificial conditions created by a great war we are in possession of an enormous fleet with which to experiment so that for the moment the question of the initial cost of the ships is not of vital importance. But how to operate those ships with labor maintained on the American scale and in competition with the Asiatic labor employed in every other merchant marine is the first and vital problem. That there can be an equalization by treaty of sailor's wages in all seafaring nations seems impracticable, though that remedy is widely discussed. Prominent figures in the building of our present merchant fleet declare that new devices for oil-burning and combustion engines are going to do away with much costly labor on shipboard, but even if so these improvements would speedily be adopted in foreign ships and the place of the United States in competition with them would remain unchanged.

Unless these apparent obstacles to the re-establishment of the merchant marine can be met, there is reason to fear that the great fleet we are now completing may pass into foreign hands. But if, as seems probable, the American people have become, in Mr. Hurley's phrase, *ship-minded,* if the attention of energetic and adventurous spirits is being turned from internal development to foreign commercial enterprise, and if the nation as a whole is thoroughly awake to the vital necessity of

having its own methods of intercommunication with foreign lands there is every reason to believe that in some way the obstacles will be overcome and that the nation may regain before the end of its second century of existence the proud position afloat which it had when it was scarce half a century old.

END